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Armco Inc.
Compilation Occurrences of
Mo, W, Sn, U and Zn
Canadian Atlantic Region

by

M. Chrzanowski, M.Sc., P. Eng.
W. E. Hale, Ph.D., P. Eng.
D. J. C. Laming, Ph.D.

GEOLOGICAL SURVEYS BRANCH
DEPARTMENT OF NATURAL RESOURCES
NEW BRUNSWICK

November 15, 1978

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ARMCO INC.

COMPILATION OCCURRENCES OF Mo, W, Sn, U and Zn C[illegible]AN ATLANTIC REGION

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FIGURE 1 - Index Map of Region 6

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1 - New Brunswick and Nova Scotia
- 1-a -- Geology
- 1-b -- Mo, W, Sn
- 1-c -- U, Zn

2 - Newfoundland
- 2-a -- Geology
- 2-b -- Mo, W, Sn, U, Zn

3 - Southern Labrador
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4 - Northern Labrador
- 4-a -- Geology
- 4-b -- Mo, U, Zn

I. INTRODUCTION

A. Method of Study

On the advice of Mr. Enochs in April, 1978 a compilation of data on Northern Appalachian occurrences of specific elements or combinations thereof was undertaken by ERCL.

The elements specified in 1978 were: Mo, Sn, W, U and Zn. In additiona, it was decided to up-grade the original compilation on Mn, which was previously undertaken in 1976 at our (ERCL) own expense and consequently did not involve a complete review of occurrences in Newfoundland. An up-date on Mn has therefore been provided in a separate report but within the '78 budget indicated for the Northern Appalachian compilation of the above-noted elements.

This compilation involved a review of published and unpublished data on the specified elements. All data available locally from the literature and regional experience was reviewed and summarily tabulated. Occurrences on which first-hand data was not available and those that were identified after the co-author left Canada for five years in 1972, were researched in the offices of the respective provincial Departments of Mines (or the equivalent) in Fredericton, Halifax and St. John's by Ms. Chrzanowski.

447 occurrences were identified. Summary data on all of these are tabulated (Chapter III) and arranged geographically from New Brunswick through Nova Scotia, to Newfoundland and Labrador. The assessment data on file was checked and abstracted in each case. It should be noted that in all three provinces, when a company or individual decides to allow the rights to a mineral property to lapse, the last

year's work on it is generally not reported. Furthermore, all provinces provide some degree of confidentiality with respect to reports submitted for assessment credit, either automatically or on request.

Many public reports and maps were acquired as background and supporting documentation on the occurrences. (These are listed in references following each tabular summary. They will be maintained separately as a reference library for ARMCO or its representative).

The transparent maps on which the locations of occurrences are plotted allow for analysis of various combinations of existing information and the addition of other or new data on the same base. Mr. Fred Kolls, surveying engineer was responsible for the maps and although difficulties with supplies were encountered, these have been overcome and future maps of ERCL will be prepared in this format.

Prospectors both in the region and elsewhere in Canada have become aware of the association of the principals of ERCL with ARMCO and are presenting prospects for consideration. These are being added to the ARMCO data bank.

B. Limitations of Data

The data contained herein are intended to serve as a base for the selection of exploration targets in the Northern Appalachian Region. It should be appreciated that the data need periodic up-grading to keep them current in an area where the present level of exploration activity is high.

Dr. H. Williams of Newfoundland will begin a compilation of mineral occurrences in the Appalachian region, as an extension of his

excellent geological compilation. Thus, the data contained herein will be generally available within a year or two.

The status of claims, licenses, leases and options is currently and constantly changing for many mineral occurrences and rechecking is necessary before any action can be recommended on a specific occurrence or area. ERCL receives regularly from each provincial department periodic notices of change in status of claims. These changes should be recorded in the tabular summaries.

For ground held on a long standing basis by major operators, the data is inadequate in the summaries for obvious reasons, including that of availability. Data are on hand, however, and can be analysed where perhaps, a type of deposit should be compared with another in production.

Reference has already been made to the fact that reports of work are not required to be filed when ground is dropped. Thus the data in this report lacks, in the case of most properties that have been held and dropped, the last year's work which has been commonly the most intensive and important for any reevaluation. Some of these reports can be obtained from personal contacts with the prospectors or companies that held the ground.

The data attached lacks field follow-up for many occurrences. Except where earlier, direct experience has been acquired on projects other than this, the data are thus second-hand.

C. Acknowledgements

The personnel of the three government offices dealing with mineral occurrences have been most helpful and cooperative in providing

information and other forms of assistance beyond that required by their regulations.

There is a genuine policy of positive and serious promotion of mineral exploration by all three governments and this has been most encouraging during this investigation. Personal contacts have been established at each office and it is now possible to obtain most information required by phone.

II. REGIONAL GEOLOGY, CANADIAN ATLANTIC REGION

A. General Statement

The region covered in this study, the provinces of New Brunswick, Nova Scotia and Newfoundland-Labrador, with adjacent islands, spans two major coastal units: the Northern Appalachian Orogenic Belt and the Canadian Precambrian Shield. The latter underlies the whole of Labrador and north-west Newfoundland, and formed the rigid buttress (craton) against which folding in the Appalachian Orogen took place. This orogenic belt contains a wide variety of geology, with folded Paleozoic rocks the main constituent.

Although the Appalachian Orogen is a continuous feature from Alabama to Newfoundland, its character changes considerably from one end to the other. Low- and high-grade metamorphic belts with granitic intrusions characterize most of its length, but in the Maritime Provinces a major, post-tectonic, sedimentary basin developed, filled mainly with Pennsylvanian strata. This basin coincides with a widening and bending of the fold belt, and the centre forms the Gulf of St. Lawrence, between New Brunswick and Newfoundland.

For the purposes of this study, the region is divided into a number of geological zones, B to I inclusive. These are shown in Figure 1, p. 6.

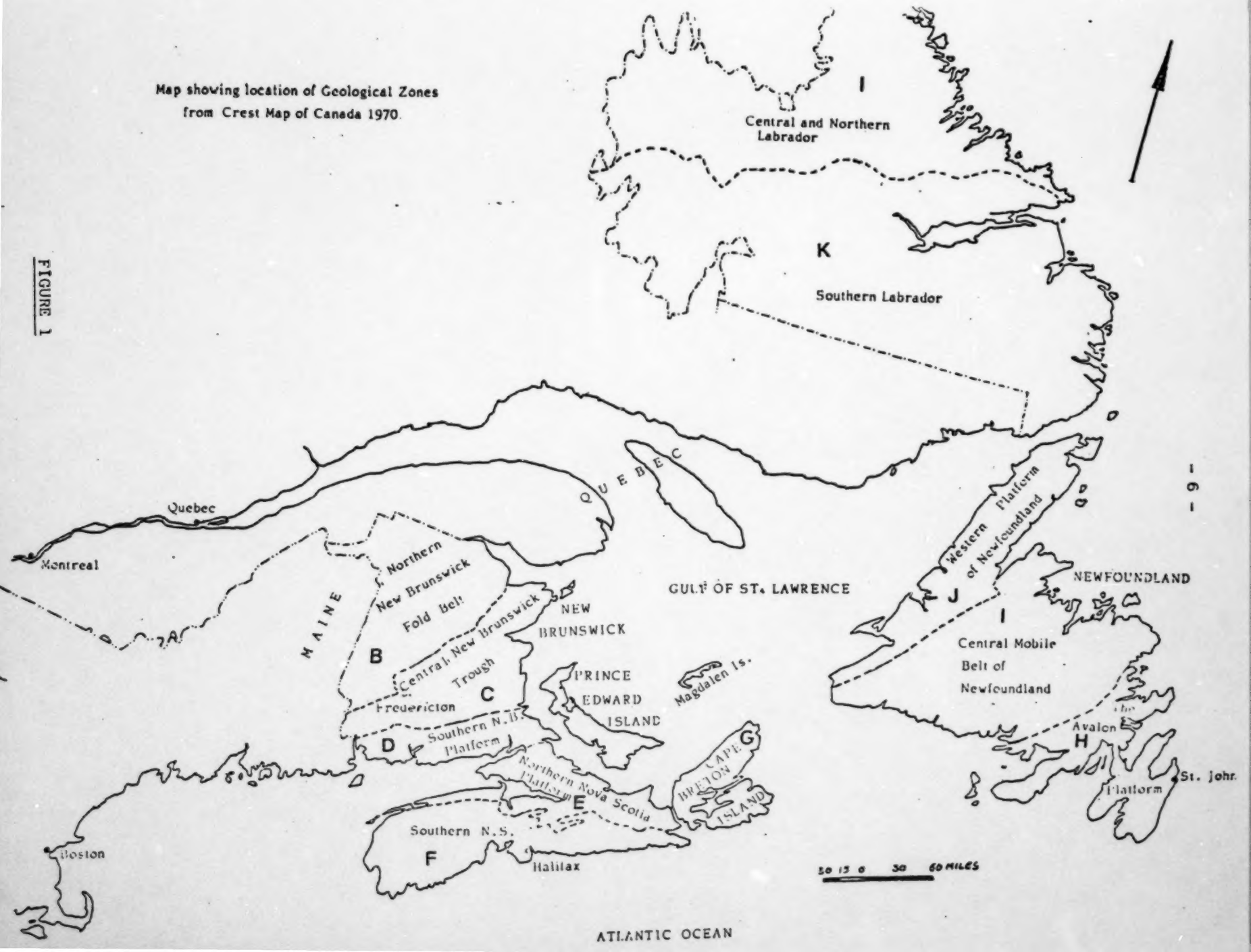
B. Northern New Brunswick Fold Belt

Nearly one-half of New Brunswick lies in the Northern N.B.* Fold Belt, bounded on the southwest by the Pennsylvanian Sedimentary Basin. The zone is part of a much larger geological province, extending into New England and Quebec in which Ordovician-to-Devonian, marine sedimentary rocks have been tightly folded and intruded by Devonian granites.

The northwestern 'arm' of the province (Madawaska County) extends across a major, low-grade, metamorphic unit that runs from Connecticut to Gaspe, consisting of slates and volcanic rocks of mainly Ordovician age (the Kedgwick Belt). To the east of this belt, there are more varied marine rocks, including some limestones and some non-marine sedimentary rocks from the Matapedia-Aroostook and Tobique Belts, continuous with the Central Maine Slate Belt and extending from north of Woodstock to Dalhousie, on the north shore of New Brunswick.

Similar rocks fringe the southwestern boundary of the zone, but, in between lies the large Miramichi Anticlinorium, a complex upland area, running from Woodstock to Bathurst, consisting of volcanic and marine sedimentary rocks of Ordovician age and older. A number of Devonian granites are intruded into it, one of them, the Pokiok batholith, extending southwards, outside the anticlinorium. Mineralization,

*N.B. - New Brunswick


Map showing location of Geological Zones
from Crest Map of Canada 1970.
FIGURE 1
I
Central and Northern
Labrador
K
Southern Labrador
QUEBEC
Quebec
Montreal
MAINE
A
Northern
New Brunswick
Fold Belt
B
Central New Brunswick
Trough
C
Fredericton
NEW
BRUNSWICK
PRINCE
EDWARD
ISLAND
Magdalen Is.
D
Southern N.B.
Platform
GULF OF ST. LAWRENCE
Western
Platform
of Newfoundland
NEWFOUNDLAND
J
I
Central Mobile
Belt of
Newfoundland
Avalon
H
St. John
Platform
G
CAPE
BRETON
ISLAND
Northern Nova Scotia
Platform
E
Southern N.S.
F
Boston
Halifax
50 25 0 50 60 MILES
ATLANTIC OCEAN

of W, Mo, Sn, and Zn (and now, possibly U_3O_8) appears largely to be associated with the contacts of the granites and meta-volcanic and meta-sedimentary rocks in this belt. Major base-metal deposits at Bathurst-Newcastle occur as strata-bound massive sulphides thought to be volcano-sedimentary in origin. A detached portion of this belt, north of Bathurst, contains ultrabasic rocks with which some, smaller, Cu-Pb-Zn deposits are also associated.

C. Central New Brunswick Trough

The Central New Brunswick Trough is a roughly triangular zone, composed predominantly of Pennsylvanian continental conglomerates, sandstones, shales, and coals with volcanic rocks on the margins of the zone. The sedimentary cover rests on a basement of Ordovician-Silurian rocks continuous with those of the previously described zone, which outcrops at points within the zone; viz., in the structural trough north of St. Stephen, and in a narrow belt along the southern margin and also possibly near Chipman, New Brunswick.

For the most part, the sedimentary rocks are flat-lying and cut by a few faults and diabase dykes; their main economic interest to date has been the coal they contain at Minto, but they are also known to contain copper deposits and more recently uranium. The two major basins, the Central New Brunswick Basin and the Moncton Basin, merge to the eastward to form the Prince Edward Island Basin where the Pennsylvanian and overlying Permian redbeds total at least some 10,000 m, but westward the cover is thin over the basement.

In the southwestern part of the Central New Brunswick Trough, Mississippian redbeds and acidic lavas and tuffs form the Mount Pleasant

"appendage" in which complex Sn, Mo, W, and Bi occur. Volcanic rocks associated with redbeds occur at other points along the same margin, with sedimentary Cu and U deposits; basalts occur near Fredericton and on the northwestern margin of the Trough. In the Moncton Basin, Mississippian marine rocks contain evaporites, including the now-important potash deposits. Oil and natural gas have been recovered from these rocks south of Moncton since about 1910.

D. Southern New Brunswick Platform

The Fundy shore-line of New Brunswick and the uplands between it and the Central Trough, constitute part of a lare Precambrian platform that has been involved in repeated tectonism, together with parts of the Lower Paleozoic slate and volcanic belt that form the northern fringe of the zone. The Precambrian is isoclinally folded in places, and consists of sedimentary and volcanic rocks; quartzites and limestones are common near Saint John. They are intruded by granite plutons, probably Devonian (recent research at U.N.B.* indicates that the ages of the granite may be Precambrian, Ordovician, Devonian and Carboniferous) though a larger granite, the St. George batholith, is present within the Mascarene slate belt in the southwest of the province--similar in geological context to the Pokiok pluton. Gabbroic intrusive rocks are present close to the U.S. border and Cu-Ni is associated with one such intrusive mass at St. Stephen. Within this zone, however, a number of Carboniferous sedimentary basins occur which have been 'caught up' by tectonic activity so that low-grade metamorphism, in part cataclistic, has affected them. Well-marked fault lines run along the zone, and thrusting has accompanied the metamorphism in the southwest; steep

*U.N.B. - University of New Brunswick, Fredericton, N.B.

folding has affected the Carboniferous on the eastern end of the Fundy shore but there the strata are unmetamorphosed. Triassic redbeds occur in the Bay of Fundy and, at places along the shore, formed in non-marine basins of the graben type.

Sedimentary Cu and U mineralization is present in some sandstones of this area and elsewhere. Uraniferous nodules occur in the redbeds of Prince Edward Island.

E. Northern Nova Scotia Platform

Partly a continuation of the Central New Brunswick, Pennsylvanian Trough, the Northern Nova Scotia Platform includes basement metamorphic units, north of a well-marked east-west fault line; the Cobequid-Chedabucto Fault which runs from the Bay of Fundy into the Atlantic, forms the northern side of a graben.

The basement rocks in the Cobequid Mountains include Precambrian gneisses, Silurian-Devonian, meta-sedimentary and meta-volcanic rocks and some gabbroic intrusions, all cut by Devonian granite plutons: an assemblage presumably once continuous with the Southern New Brunswick basement platform, from which it is separated by the Chignecto (Fundy) Carboniferous-Triassic basin. A similar gap separates the Cobequid Massif from the Antigonish Inlier to the east, which is also composed of Precambrian to Silurian metamorphic rocks, cut by small granite plutons.

The Carboniferous of this zone consists of Pennsylvanian sandstones and shales, with coals, but includes several other formations, black shales, redbeds, limestones and evaporites of Mississippian age.

South of the Chignecto-Chedabucto fault, these rocks overlap the Lower Palcozoic, Meguma massif of Zone E, and, in turn, are overlapped by the Triassic redbeds and plateau basalts of the Annapolis Valley and

North Mountain. On the southern fringe of the Annapolis Valley these overlap the Lower Paleozoic directly. The Triassic rocks were formed during a period of rifting and, in parts, they infill grabens, though most of the basins are half-grabens similar to the Newark Basin. Faulted remnants of redbeds and basalt with some copper occur on the north side of the Bay of Fundy, notably in Grand Manan Island, southwestern New Brunswick.

Copper and leas sulphides are present locally in the Carboniferous rocks, and salt and gypsum are mined at several places in the zone. Other minerals are, or have been, mined, notably barite, silver and manganese at Walton, lead-zinc at Gays River (now going into production), north of Halifax, and lead at Salmon River, near Sydney. Uranium is associated with copper at Tatamagouche in Pennsylvanian sandstone.

F. Southern Nova Scotia Fold Belt

Lower Paleozoic, meta-sedimentary rocks, strongly folded and intruded by Devonian granites, form nearly all of the Nova Scotia peninsula and represent a markedly different geological unit to the Appalachian rocks thus far described. This is attributed to their origin from a different crustal plate and many geologists regard them as a piece of Africa (Morocco) left behind after Atlantic rifting commenced in the Triassic-Jurassic.

The Meguma Group consists of greywackes and slates of typical geosynclinal type, isocinally folded. Belts of younger Paleozoic rocks are preserved in two or more synclines on the northwestern side, where quartzites, volcanic rocks and some iron formations are present (Silurian-Devonian). Gold, iron ore and manganese have been mined from the Meguma.

A large Devonian granite, the South Mountain batholith and other smaller plutons, occupy nearly half of the exposed terrain. Sn,

Mo, and W occur in veins, pegmatites and contact zones, and occurrences of U are also reported from these granites.

G. Cape Breton Island

Although in part a continuation of the Precambrian platform and Carboniferous sedimentary cover of northern Nova Scotia, the Island incorporates basement rocks of Newfoundland affinities. In the Cape Breton Highlands a complex of Precambrian quartzites, marbles and amphibolite schists is intruded by granites. On the southeastern arm of the Island there are Precambrian pyroclastic and meta-sedimentary rocks with few intrusions, with lower Paleozoic sedimentary rocks overlying them. The whole Island presents a picture of pre-Carboniferous massifs, of this type, surrounded by Carboniferous non-marine rocks, including coal basins. A Triassic basin exists offshore, to the south, in Chedabucto Bay. Mineralization of the Precambrian includes W, Cu, Zn and Ag.

H. Avalon Platform

The southeastern part of the Island of Newfoundland is a Precambrian platform, probably continuous with those in southern New Brunswick and northern Nova Scotia. It consists largely of deformed and metamorphosed volcanic rocks (the Harbour Main Group), intruded by granite, and a thick, less deformed, sedimentary sequence (the Connecting Point Group and equivalents) of marine and non-marine origin, mainly slates and sandstones but with some volcanic rocks in places. Cambrian-Ordovician, shallow-water sedimentary rocks occur in several synclines. The zone is cut by a number of faults and Devonian granites from the Central Mobile Belt overlap into the Avalon zone. Copper, lead, barium and manganese have been mined in this zone.

I. Central Mobile Belt of Newfoundland

Very thick sequences of deep-water, sedimentary and volcanic rocks, mainly Ordovician and Silurian, are present in this zone, formed in a major geosyncline, between the Avalon Platform and the Canadian Shield. Volcanic rocks are more common on the western side, and Silurian rocks include sandstones and conglomerates of shallow-water type that formed in several separate basins. During the Devonian the zone was compressed by the Acadian Orogeny, producing slates and schists, and several large batholiths were intruded. Ultramafic intrusions of earlier age (Taconic ?) are present in the Gander Belt along the eastern side, and also to the northwest in the Burlington Peninsula. A number of granitic to gabbroic plutons are present of pre-Devonian (back to Ordovician) age, indicating that orogenesis was a long process in this zone.

Metamorphism is medium- to high-grade in the southern part of the zone but elsewhere is generally low-grade. Structural deformation is considerable, and major structural units are separated by thrusts. A mylonite belt occurs along the margin of the zone in the southwestern part of the Island (Cape Ray Fault). Copper and gold are mined in Notre Dame Bay, and at Buchans, in the centre of the zone. Occurrences of these and other minerals including Mn, W, Sb, As, Pb, and asbestos are known at many localities.

J. Western Platform of Newfoundland

The core of the Western Platform of Newfoundland is the Long Range inlier of Precambrian Shield rocks, schists, gneisses and granites

related to the extensive Grenville Province of southeastern Quebec and southern Ontario. Gabbro dykes cut the northern part of the inlier. This basement was apparently stable during most of the Paleozoic, at the time of deformation in the Central Mobile Belt, but some effects of the tectonic activity are marked by two large thrust slices of deformed Cambro-Ordovician sedimentary and volcanic rocks, one at the northern tip of the Island (the Hare Bay Klippe) and one on the west coast (the Humber Arm Klippe). Incorporated in these are a number of ultrabasic bodies with Cr, As, asbestos and Cu mineralization.

Undeformed, to moderately-deformed, shallow, marine limestones and shales of Cambro-Ordovician age are also present, overlapping the Precambrian core and over-ridden by the klippen. These are of different type to the over-riding rocks, which appear to have been thrust out from the mobile belt geosyncline.

Carboniferous sandstones and conglomerates are present in several, fault-bounded basins, in a trough between the Great Northern Peninsula and the remainder of the Island. One occupies the southwestern coastal area and includes gypsum and saline deposits; oil and gas have been detected but not commercially produced.

K. Southern Labrador

Labrador, as a whole, forms part of the Canadian Precambrian Shield (demarcated by an administrative boundary that cuts across geological boundaries). Parts of four shield provinces are present in Labrador, one of which, the Grenville Province, comprises the southern zone. This province extends southeastwards into Quebec and Ontario and

is characterized by radiometric ages of 900 my and older. It is separated, more or less, from adjacent Shield provinces by the Grenville Front, a well-marked lineament for most of its length; in Labrador the Front consists of a thrust and a metamorphic gradation.

The rocks of southern Labrador are predominantly gneisses granulites, granitic gneisses, migmatiles and granites. Extremely complex folding is characteristic. This folding is not parallel to the NE-SW trend of the orogen but commonly exhibits curved or domal trends relative thereto. Numerous gabbro and large anorthosite bodies have been intruded in the zone. Highly metamorphosed equivalents of the Labrador Fold Belt (Zone K), marbles, quartzites and magnetite are found south of the Grenville Front in the western part of this zone.

L. Central and Northern Labrador

Parts of three shield provinces, all basically older than the Grenville Province, occur in Labrador, north of the Grenville Front. The oldest part, belonging to the Superior Province, consists of a small area of granulites at the western tip of Labrador. It is overlain, unconformably, by rocks of the Labrador Fold Belt (Trough), which form part of the Churchill Province and trend N-S. These are geosynclinal deposits of sandstone, iron formation, pyroclastic rocks and basalts, with gabbro sills intrusive into them. They have been folded and over-thrust by basement rocks from the northeast, and are partly metamorphosed. The basement in the Churchill Province extends to the northern tip of the territory and consists mainly of gneisses with radiometric ages of 1300-1600 my. Structural trends are generally north to northwest. Large masses

of anorthosite (containing in places iron-titanium) intrude the gneisses, and layered gabbros are also present.

Sedimentary rocks in this zone include the Seal Lake Group, in a large syncline near the southern margin. This consists of more than 30,000 feet of quartzites, conglomerates and argillaceous rocks, with interbedded basalt flows and sills; redbeds are common at the top of the succession. These rocks contain interesting deposits of high grade but discontinuous,native copper.

The Nain Province includes mainly gneisses, cut by anorthosites, and comprises the east coast area of Labrador, north of Hamilton Inlet. At the southern end sedimentary and meta-sedimentary rocks of the Aillik Group are possibly correlative with the Seal Lake Group but may be older.

Mineralization of the rocks of this zone is concentrated mainly in the Central Mineral Belt, from Aillik (Makkovik) Bay, westwards to the iron-formation areas of the Labrador Trough. Uranium occurrences are concentrated in meta-sedimentary and meta-volcanic rocks of the Croteau Lake and Aillik Groups, within the Central Mineral Belt.

III. TABULATED SUMMARIES MINERAL OCCURRENCES DATA

(See page 16.)

SUMMARY OF Mo, W, Sn OCCURRENCES NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
7a	South Benjamin River lat. 47°49' long. 66°21'	Silurian basalt, porphyritic trachite, intruded by Devonian granite	pyrite, chalcopyrite molybdenite chalcocite bornite	Assays: (Soquem 1971). Cu-0.02-0.23% Mo-0.01-0.04% Ag-trace		Greiner, 1970 Soquem Exploration, 1971	Open.
8	Benjamin River lat. 47°52' long. 66°22'	as above	pyrite chalcopyrite molybdenite chalcocite bornite covellite			Greiner, 1970 Soquem Exploration, 1971	Project financed by Union Miniere Explorations and Mining Corporation Ltd. (60%) and Soquem (40%) was carried out in 1970. Geochemical surveys, geophysical surveys and 20 drill holes totalling 12,000 feet were completed. Open.
30	Nicholas Deny's No. 1 lat. 47°43' long. 65°54'	Devonian quartz monzonite granodiorite and Silurian cherty hornfels	molybdenite	0.33% MoS		Baldwin, 1965 Ritche, 1967 Skinner, 1974	In 1965, N.B. Molybdenum Mines drilled two holes. In 1967, drilled two more holes. Mineralization zone 3,000 feet long, 6.2 feet wide, estimation 500,000 t to a depth of 300 feet with average grade 0.33% MoS. Open.
31	Nicholas Denys No. 3 lat. 47°42' long. 65°53' See summary of Zn occurrences N.B.						Partly staked by individuals.
32	Nicholas Denys No. 5 lat. 47°42' long. 65°52' See summary of Zn occurrences N.B.						As above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
33	Nicholas Denys No. 9 lat. 47°42' long. 65°52' See summary of Zn Occurrences N.B.						Partly staked by individuals.
34	Nicholas Denys No. 2 lat. 47°41' long. 65°54'	Devonian quartz-monzonite granodiorite close to Silurian cherty hornfels.	pyrite chalcopyrite molybdenite	Cu-0.31% 0.016% MoS_2 (4-foot section in drill holes)		Baldwin, 1965 Davies, 1969 Skinner, 1974	In 1964, Quebec Sturgeon River Mines Ltd. drilled 3 holes. As above.
63	West Bathurst lat. 47°37' long. 65°41'	granite boulders	molybdenite		Discovered by Mr. G. Gilbert.	Wright, 1940	Open.
64	Rough Waters lat. 47°35' long. 65°39'	Devonian biotite granite	molybdenite		Mentioned in several reports of Geol. Surv. of Canada.	Bailey, 1864 Wright, 1940	Area staked by individuals.
65	Little River lat. 47°33' long. 65°44'	boulders (in distance of 2,000 feet)	molybdenite		Discovered by H. Bourque in 1939.	Wright, 1940	Open.
66	Middle River lat. 47°33' long. 65°47'	in quartz veins in immense boulders of granite. Possibility of finding it in underlying bedrock.	molybdenite xls (up to 1 inch in diameter)		Discovered by Provincial party lead by T. H. Donaldson in 1938.	Wright, 1940	Open.

SUMMARY OF Mo, W, Sn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
67	Pabineau Lake lat. 47°30' long. 65°46'	granite boulders (area 1300 feet long and 400 feet wide)	molybdenite and beryl	5.02% MoS_2	Discovered in 1932 and in 1939, investigated by Dept. of Lands and Mines by pits and trench for a distance of 85 feet. 2 tons of ore were yielded from the pit. Area 1300 feet.	Alcock, 1936	Staked in 1940. Presently by individuals.
68	Sugary Brook lat. 47°29' long. 65°44'	granite boulders in a distance ~5,000 feet.	molybdenite		Discovered by H. Bourque in 1939.	Wright, 1940.	Open.
72	Pabineau River lat. 47°26' long. 65°46'	Devonian biotite granite	molybdenite and gold	gold - 0.02 oz/t	Discovered in 1932, examined in 1933. In 1939 Provincial prospecting without much progress.	Wright, 1940.	Partly reserved.
131	Rocky Brook lat. 46°34' long. 66°38'	Devonian granite	molybdenite ? Fluorite		No more information.	Min. Occurr. Map, N.B. 1977.	Open.
132	Fall Creek lat. 46°37' long. 66°37'	contact Devonian granite with bedded Silurian rocks.	wolframite molybdenite		Discovered by H. Bailey	Wright, 1940	Aquitaine Co., Texasgulf
134	Sisters Brook lat. 46°36' long. 66°39'	in quartz veins in Devonian granite	molybdenite and arsenopyrite sphalerite			Map 6-1963 Maysville	Shell Canada, Texasgulf, others.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
136	Todd Mountain lat. 46°38' long. 66°42'	quartz veins in Devonian granite	wolframite molybdenite (small quantities) tourmaline copper		Discovered in 1939 by Provincial Government party lead by A. McMillan.	Wright, 1940	Shell Canada.
137	Burnt Hill lat. 46°34' long. 66°48'	veins cut sedimentary rocks of Silurian age near the contact with Devonian granite	wolframite molybdenite cassiterite	geochemical anomaly of tungsten up to 41 ppm and one up to 400 ppm	Mining opened 1915-18. From 1952-57 about 50,000 tons of concentrate were shipped. York Mining Company did exploration work in 1956-57. Miramichi Lumber Company during the tenure of claims did airborne EM and magnetic surveys, line cutting, geochemistry, scintillometer survey and some drilling. In Jan. 1978 report of work on (J.D. Irving) Conroy Brook claims (Soil geochemical analyses for Mo up to 70 ppm. W-<400 ppm, Sn-75 ppm. Presently re-opening old shaft.	Wright, 1940 and unpublished reports from Dept. of Nat. Res.	York Mining Company staked and did exploration work in 1956-57. In 1976-77 large claim group staked by Miramichi Lumber Company Other claims nearest to the mine 1) Cominco Clearwater Property, 2) Cominco, Gillman Property, 3) Cominco Four Miles Property, Cominco, Fall Brook Property, 5) Heath-Steele, Freehold, 6) New Jersey Zinc Expl. Ltd. 7) Cominco, Cleveland Option, 8) Rocky Brook Group. Miramichi Lumber Co., Western Mines Ltd.
138	McKiel Lake lat. 46°35' long. 66°56'	In float	molybdenite		Reported in 1942 by G. Whalen and I. Green.	Poole, 1963	Open.

SUMMARY OF Mo, W, Sn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
144	Upper Northampton lat. 46°09' long. 67°33'	quartz veins in Devonian granite intruded in Cambro-Ordovician metasediments	molybdenite (in disseminated form) with pyrite, chalcopyrite, pyrrhotite	5-10% combined sulphides		Lockhart, 1969-1971	In 1968 Falconbridge Nickel Mines Ltd. conducted magnetometer, soil, geochemical and geological surveys which led to 1700 feet of trenching. Mining licence W. Lockhart.
153	Pokiok lat. 45°57' long. 67°14'		cassiterite		Collection of Dr. A. Gesner in connection with exploration in 1939.	Wright, 1940	Open.
154	Dumfries lat. 45°57' long. 67°08'	quartz veins and granite boulders at two points about 200 feet apart.	molybdenite wolframite		Deposit examined by H. Bailey in 1939 by trench.	Wright, 1940	F. Hart of Fredericton.
155	Springfield lat. 46°01' long. 67°04'	In quartz veins and quartzite in Devonian granite.	molybdenite	4.6% MoS_2	Molybdenite found on the farm of Irving Reed at Springfield about 1950.	Tupper, 1954.	Open.
156	Zealand Station lat. 46°04' long. 66°58'		Disseminated molybdenite with tourmaline and beryl			Smith, 1961	Open.
204	St. Stephen (McLeods Corner) lat. 45°15' long. 67°17'	Devonian granite	molybdenite wolframite cassiterite stibnite		Reported by Bailey in 1864.	Bailey, 1864 Wright, 1940 McKenzie, 1940, 1960	Atlantic Nickel Mines Ltd.
205	Gallop Brook lat. 45°16' long. 67°13'	Lower Ordovician schist on the contact and within Devonian granite.	sulphides of tin, molybdenite			Map 20-1966 by A. Ruitenberg	Staked in 1970: by Sullivan Mining Group Ltd.; Billiton.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
207	Tower Hill lat. 45°16' long. 67°09'	Lower Ordovician schists	sulphides of tin			Map 20-1966 by: A. Ruitenberg N.B. D.N.R.	Staked in 1956 by Zenmac Metal Mines Ltd. In 1963 by Rollingdam Mines Ltd. In 1975 by R. H. Cox and in 1976 by Kerr Addison Mines Ltd. Still owned by R. H. Cox. Canadian Nickel Co. Ltd., R. H. Cox.
208	Clarence Brook lat. 45°20' long. 67°00'	Silurian and Lower Devonian micaceous schists	molybdenite and tin sulphides			Map 20-1966 by: Ruitenberg N.B. DNR	Staked in 1968 by Fundy Bay Lucky Lake, J. B. Symington and in 1968 by Findathorn Syndicate. Billiton.
209	Kedron Brook lat. 45°24' long. 66°55' (see Zn in New Brunswick)						
210	Piskahegan-Hatch Brook (E part of Mount Pleasant) lat. 45°25' long. 66°53'	Silurian and Lower Devonian phyllite and slates.	sphalerite and tin sulphides			Map 20-1966 by: A. Ruitenberg N.B. DNR	Exploration work in 1963-64 by Brunswick Tin Mines Ltd. Staked in 1964 by Mount Pleasant Mines Ltd. Individuals.
211	Mt. Pleasant lat. 45°26' long. 66°53'	quartz feldspar porphyrics of Carboniferous (Mississippian) age; Piskahegan Group	1) type: molybdenium tungsten bismuth 2) type: copper tin zinc	0.1% Mo 0.2% W 0.08% Bi	Economic importance first realized in 1954 (Selco Exploration Co. Ltd.)	Petruck, 1964 Ruitenberg, 1967 van de Poll, 1967 Parish and Tully, 1971	After discovery in 1954 in next 7 years area was explored by geochemistry, geophysics and diamond drilling. In 1961 extensive stripping. In 1962, 600 feet adit was driven. In 1966, all work ceased. In 1967, Sullivan Mining Group obtained an option on the property. In 1969, Brunswick Tin Mines Ltd. formed.

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	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
211	Mt. Pleasant (continued) from page 6.		minerals: cassiterite stannite sphalerite arsenopyrite chalcopyrite galena molybdenite fluorite	MPS-237 %Cu-.001-.042 %Pb-.005-.050 %Zn-.010-.210 %Bi-.010-.013 $\%MoS_2$-.022-.060 MPS-236 %Cu-.001-.008 %Pb-.001-1.200 %Zn-.012-3.770 %Bi-.002-.023 $\%MoS_2$-.027-.053		1973-Report by Tully on 1973 drill program 1977-two assessment reports: Little Mt. Pleasant area Claims: 269526-269541 and mining license 1220.	To Jan. 1971, total of 211,253 feet diamond drilling. There are 3 adits on the property. In 1970-71 more geophysical surveys, I.P. and resistivity survey which recommended drilling (McPhar report). In 1973, 5 drill holes were put down MPS-134; MPS-208, 210, 211, 213. Brunswick Tin Mines Ltd., Billiton. No mineralization of interest was encountered. In 1977-MPS-237 (449') MPS-236 (to extend MPS-134 to 802'). New property belongs to: Brunswick Tin Mines Ltd. and Sullivan Mining Group. Billiton Exploration Canada Ltd. doing feasibility study.
259	St. George (Bonny River) lat. 45°13' long. 66°51'	Devonian granite	molybdenite		Discovery unknown no commercial value.	Wright, 1940	Open.
260	Penfield-Trout Brook lat. 45°11' long. 66°44'	boulders	molybdenite		Reported by Alcock in 1927.	Wright, 1940	Open.
263	Musquash-Vinegar Hill lat. 45°12' long. 66°18'	Devonian granite	molybdenite		Discovered in 1932 by J. D. Ferguson.	Ruitenberg, 1969	Open.
266	Eagle Lake lat. 45°16' long. 66°22'	Silurian volcanic and sedimentary rocks intruded by Devonian granite	chalcopyrite pyrite molybdenite		Discovered in 1960 by W. R. Geldart small amount of geophysical work done.	Mackenzie, 1964 Ruitenberg, 1968	Staked in 1960 by J. J. Dolan of St. John. Individuals.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
267	Deep Lake (Nerepis area) lat. 45°22' long. 66°20'	Silurian volcanic and sedimentary rocks intruded by Devonian granite	wolframite		First mentioned by Bailey, 1864.	Ruitenberg, 1969	Mining license Aquitaine Co. and individuals.
268	West Lake lat. 45°22' long. 66°21'	Silurian volcanic and sedimentary rocks intruded by Devonian granite	molybdenite		First mentioned by Bailey, 1864.	Ruitenberg, 1969	Individuals.
269	Nerepis lat. 45°24' long. 66°18'	Silurian meta-sedimentary and volcanic rocks and contact with Devonian granitic intrusions.	wolframite cassiterite sphalerite galena chalcopyrite		Mentioned first by Bailey in 1864. In 1954, F. Dugay discovered base metal vein in Matthew's Brook, magnetometer and resistivity survey carried on in 1954, and drilled but no ore body of economic interest was discovered. From 1968 more geochemical and geophysical surveys have been done.	Cook, 1968 Ruitenberg, 1969 Hudgins, 1968	Staked in 1954 by Fundy Bay Copper Mines Ltd. property restaked for Crystal Ice Company in St. John, in 1959, option dropped in 1960. In 1968 property optioned by M. Obalski Mines Ltd. Aquitaine Co., Individuals.
270	Square Lake lat. 45°26' long. 66°21'	quartz veins and topaz greisen cutting Devonian granite	wolframite molybdenite arsenopyrite chalcopyrite galena	0.68% WO_3	Discovered in 1932 by L. Leslie. Examined by Dept. of Lands & Mines in 1940 at 17 points over 7 sq. miles, veins from 1012 feet wide.	Wright, 1940 Cook, 1968 Ruitenberg, 1969	Restaked by Union Carbide Exploration Company in 1969. Now open.
271	Misers Hill lat. 45°27' long. 66°23'	in Devonian granite near contact with Silurian argillites	molybdenite wolframite bismuthinite chalcopyrite arsenopyrite	0.2% tungsten 0.5% copper 0.1% tin 0.2% bismuth 0.001% beryllium		Jackson, 1968 Martin, 1962	In 1952 Carnegie Mines Ltd. and in 1962 Mount Costigan Mines Ltd. carried out stream sediments, trench survey, drilling, mapping. In 1968, Jackson, E.V., mapped granite. Open.

SUMMARY OF Mo, W, Sn OCCURRENCES NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
272	Howard Mountain lat. 45°28' long. 66°32'	In Devonian granite near the contact with argillite and hornfels.	molybdenite			Tupper, 1959	Open.
273	Wirral lat. 45°29' long. 66°29'	quartz veins cutting Devonian granite	molybdenite		Found in 1929.	Wright, 1940	Western Mines Ltd.
283	Near Sussex lat. 45°45' long. 65°31'	quartz sericite schist	molybdenite		Discovered in 1932 by R. Geldart of Sussex.	Wright, 1940	*Open.*

SUMMARY OF U OCCURRENCES — NEW BRUNSWICK — page 1.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
1	Cox Brook lat. 47°51' long. 66°56'	Upper Ordovician felsite dyke cutting slates	radioactive material in veinlets 1/8 to 1/2" wide and disseminated specks and streaks.	3X background	Reported first in 1953 by C.T. Ritchie of Toronto. Dyke 12-15 feet wide and exposed for 50 feet.	Gross, 1957	In 1954 M. J. Boylen, Engineering Offices Ltd., Bathurst, N.B. optioned the property and drilled a number of short holes and dug trench. Open.
2	Atholville lat. 47°59' long. 66°42'	Devonian quartz-feldspar porphyry dyke or sill and slates.	uranium oxides	2.3% U_3O_8 (float product) 0.04% U_3O_3 (slates)	Discovered in 1954.	Gross, 1957	Several diamond drill holes were put down in 1954 by M. J. Boylen Engineering Office Ltd., Bathurst, N.B. Open.
13	Durham lat. 47°64' long. 66°02'	Devonian volcanics			Reported by Abbott.	Abbott, 1965 Map 31-1965 G.S.C. 1966	Area restricted prospecting rights Mining Act Section 13 (2) (e).
201	Harvey Station lat. 45°44' long. 67°01'	Carboniferous			Work in progress.		Exploration work at present time (June, 1978) by Noranda Exploration Co. Ltd. and Imperial Oil Ltd.
202	Manners Sutton lat. 45°42' long. 67°03'	Carboniferous Mississippian Harvey Formation rhyolite and rhyolite tuff	radioactive materials associated with fluorite	0.048% U_3O_8 0.02% U_3O_8	Discovered in 1954 with York Mills occurrence.	Gross, 1957 Kuan Soong, 1970	Explored with York Mills, below by the same companies.

SUMMARY OF U OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
203	York Mills lat. 45°40' long. 67°06'	Carboniferous Mississippian Harvey Formation rhyolite and rhyolite tuff	uranospinite saleite	0.01-0.04% U_3O_8 assays from drill holes 0.05-0.08% and 0.14% U_3O_8	Discovered in 1954.	Gross, 1957 Kuan Soong, 1970 Cooper, 1978	Exploration carried out by Technical Mine Consultants Ltd. in 1954. In 1956, property taken over by N.B. Uranium Metals and Mining Ltd. and later by Rio Canadian Exploration Ltd. Four diamond drill holes totalling 1,963 feet. In 1978, Noranda Exploration Company Ltd. performed geological, geochemical, radiometric and drilling program, which did not indicate environment for Uranium mineralization. More ground work recommended (scintillometer).
212	West Mill Settlement lat. 45°33' long. 66°33'	Carboniferous Mississippian conglomerate of Carrow Formation	uranium mineralization associated with fluorite.		Discovered by McNamara.	Clark, 1962 van de Poll, 1967 Gemmel, 1975 Ruitenburg, Others, 1976 Antoniuk, 1976	Explored by Rio Tinto Canadian Exploration Ltd. in 1976 and continued in 1978. Work done: soil sampling and four diamond drill holes totalling 1,617 feet, which found uranium mineralization, but no economic value. Recommendation: to drop option.
213	McDonald Point lat. 45°42' long. 66°03'	Carboniferous Pennsylvanian sandstone and conglomerate	uranium mineralization	37 ppm Uranium	Reported by Smith, A.Y. in 1971.	Holliday, 1971 MacKenzie, 1964	Staked by Holliday, S. who drilled three diamond drill holes totalling 275 feet. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
214	Shippegan Island lat. 47°44' long. 64°38'	Carboniferous Pennsylvanian sandstone	uraninite or pitchblende	0.25-1.47% U_3O_8	Mentioned by Gross, 1954.	Gross, 1957.	Radioactivity is detected in sandstone outcrop (at low tide) 300 feet long and 30 feet wide, within area 20 by 20 feet where red staining occurs in patches (1 foot wide and 2 inches thick). Strongest radioactivity associated with fossil plant stems. J. W. McCarthy.
215	Lake George Antimony lat. 45°51' long. 67°02' and Uranium	Silurian slates close to the Devonian granite	stibnite minor pyrite, arseno-pyrite, calcite native antimony and uranium	Eldorado Nuclear carried out sampling. Out of 31 samples: 5 assayed less than 10 lb/t U_3O_8; 12 between 1-2 lb/t U_3O_8; 12 between 2.0-5.5 lb/t U_3O_8.	Quartz veins with stibnite discovered about 1860. Recently in November 1978 new discovery of uranium	Shaw, 1940	Property operated intermittently from discovery in 1860 to 1931. In 1969 Consolidated Durham Mines and Resources acquired the property. Geological, geochemical survey follow-up by diamond drilling and production commenced in 1971. In 1973 the mill rate was increased 200 t/day. In November 1978 after discovery of uranium area staked by: Consolidated Durham Mines & Resources - 20,000 acres and others including individuals.
278	Hampton lat. 45°33' long. 65°52'	Vein of hydrocarbon near major fault which separates pre-Carboniferous, Kingston Group from Kennenbecais Group, Miss. Carboniferous		0.024-0.053% U_3O_8 (Samples from trench) drill holes assays: 0.03% U_3O_8 Soil Samples: 2-9 ppm Uranium mineralization at 210'-503' and 162'-350'.	Discovered in 1953.	Gross, 1957 Horst, 1977	Radiometric survey in 1953 and drill program in 1954 by Kingston Uranium Ltd. (seven holes totalling 1,412 feet). In 1976, Canadian Nickel Co. Ltd. performed, geochemical, geophysical and drilling program. Two drill holes which intersected mineralization. Canadian Nickel Co. Ltd.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
282	Apohaqui (Millstream) lat. 45°42' long. 63°38' and Lower Millstream	Carboniferous Mississippian "redbeds" coarse and clastic sediments of Weldon Formation	uranium mineralization 10-50 ppm U_3O_8	In stream sediments 6.5 ppm uranium. In soil sediments 79 ppm uranium	First mentioned by Smith, 1968 in D.N.R. report.	Smith, 1968 Lockhart, 1970 Horst, 1977	In 1969, Hale & Associates Ltd. carried out radiometric and geochemical survey. Two zones of anomalous value outlined. In 1976 Canadian Nickel Company Ltd. carried out geochemical, geophysical and drilling program (five holes - 1,428') three holes intersected minor uranium mineralization.
286	Steeve Mountain lat. 46°07' long. 64°59'					MacGibbon, 8 June, 1978, Daily Gleaner	New claims staked by Canadian Nickel Co. Ltd. and an exploration program summer 1978 started in May, 1978.
287	Lutes Mountain (SW of Shediac) (Aguitaine Claims) lat. 46°10' long. 64°52' Lutes Mountain (Casan claims)	Carboniferous Mississippian conglomerate	uranium and copper mineralization	U_3O_8 content of 32 ppm in soil samples		Steele, 1975 Cowan, 1976, 1977 Roberts, 1977	In 1975 induced polarization survey by Aguitaine Company of Canada Ltd. followed by geological, radiometric, geochemical survey in 1976 and diamond drilling in 1977 which intersected in two of five holes occurrence of uranium-copper mineralization. In 1977, Casan Mining Ltd. carried on geological radiometric & geochemical survey on their property to the N of Aquitaine's claims. Recommendation for diamond drilling.
288	Cocagne River lat. 46°13' long. 64°53'	as above				MacGibbon, 1977	In 1977, Canadian Nickel Co. Ltd. -geochemical, geophysical survey and 2 drill holes which did not intersect uranium mineralization.
289	Shediac River lat. 46°11' long. 64°50'	Carboniferous Memramcook arkose	not identified			Smith, 1958	Mineralization on fault planes in form of grey gouge up to 4 inches. Canadian Nickel Co. Ltd.

SUMMARY OF Zn OCCURRENCES* NEW BRUNSWICK page 1.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
3	MacLeod Siding lat. 48°01' long. 66°35'	Devonian basalt	sphalerite galena in vein one foot thick and two thinner veins	3.60%-Zn 0.07%-Pb 0.28 oz. Ag/ton	Discovered by Alex Doyle in 1970.	Greiner, 1974	Open.
4	Dalhousie sphalerite lat. 48°04' long. 66°25'	in boulders	sphalerite		Reported by L. Bailey in 1864 and later mentioned in Devonian mafic volcanics by F.J. Alcock in 1935.	Alcock, 1935 Bailey, 1864	Open.
5	Popelogan Lake lat. 47°48' long. 66°37'	Ordovician or Silurian	zinc-lead-copper (low grade)		Discovered by Stratmat Ltd. in 1955 from the results of airborne electromagnetic survey.	N.B. Dept. of Nat. Res. Assessment Files.	Open.
6	Upsalquitch Forks lat. 47°39' long. 66°43'	Silurian limestone	sphalerite pyrite galena silver	2.0%-Zn 1.0%-Pb	No more information.	Abbott, 1965 Potter, 1963	Open.
7	McNair Brook lat. 47°45' long. 66°18'	Silurian basalt	sphalerite galena chalcopyrite pyrite in quartz vein-4 feet wide.	0.05 oz/ton Au 25 oz./ton Ag	Discovered in 1938 by prospector.	Wright, 1939 Greiner, 1965	Open.
9	McNeil Brook lat. 47°46' long. 66°12'	Devonian andesite interbedded with basalt	massive to disseminated pyrite chalcopyrite bornite sphalerite galena	2.09%-Cu 0.01%-Pb 0.43 oz/ton Ag 0.3%-0.8% Zn		Cooper, 1967 Greiner, 1970	Exploration work done in 1967, including drilling by Noranda. Open.

*NOTE: In the Bathurst-Newcastle Camp of N.B., many of the 111 known occurrences of Zn (numbers from 3 to 122) are staked, either by individual license holders or companies among which are: Brunswick Mining & Smelting Corp., Heath Steel Mines Ltd., Noranda Expl. Co. Ltd., Texasgulf INc., Consolidated Mining & Smelting Co., Cominco Ltd., North American Rare Metals Ltd., Worldwide Expl. Ltd., McIntyre Mines Ltd., Sabina Industries Ltd., Key Anacon Mines Ltd., Preussag Canada Ltd., Newmont Mining Corp. of Canada, Umex, Aquitaine Co. of Canada, Conwest Expl. Ltd., Kerr Addison Mines, Imperial Oil. Some of the individuals' claims are optioned to these companies, although this is not indicated on the published claim maps and has to be researched from the Registrar's files in Fredericton. If interest in zinc within the Bathurst-Newcastle Camp warrants it research into the present ownership and assessment status can be made but it will involve time and costs beyond the limitations of the '78 budget

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
10	Wild Cat Brook lat. 47°47' long. 66°10'	Devonian basalt	galena sphalerite in dissemination and quartz veinlets.			Greiner, 1970 Robert, 1966	Open.
11	Hayes Gulch lat. 47°47' long. 66°10'	Devonian rhyolitic agglomerate	pyrhotite sphalerite galena	average grade of two samples: 0.04%-Pb 0.19%-Zn 0.11 oz/ton Ag		Downie, 1968 Greiner, 1970 Robert, 1966	Open.
12	Big Hole Brook lat. 47°50' long. 66°08'	Devonian andesite, rhyolite	sphalerite, galena in shear zones 1-8" wide.			Alcock, 1930 Boyle, 1965 Greiner, 1965	Open.
14	Logan Property lat. 47°48' long. 66°00'	Devonian granite	galena sphalerite bornite chalcopyrite azurite malachite in quartz veins.	Chip samples: 11%-Cu 19.6%-Zn 22.1%-Pb 107.30 oz/ton Ag.		N.B. Dept. Nat. Res. Assessment Files.	In 1955, geochemical survey carried out in 1960, 18 holes totalling 4,339 feet drilled. During 1965 the No. 1 vein stripped over a width of 100 feet for a length of 1,100 feet and 15 trenches totalling 890 feet dug. Staked by individuals.
15	Patapat Brook S. Patapat Brook lat. 47°51' long. 65°58'	Devonian limestone intruded by basalt and diabase.	quartz-bornite sphalerite covellite galena, chalcopyrite veins.	Allcott assays: Cu-3.45% Zn-7.45% Pb-6.68% Ag-15.07 oz/t	Discovered by J. Knowles in 1956.	Greiner, 1960 Gummer, 1965 Constable, 1973 Allcott, 1973	In 1973 (Allcott) estimated reserves at 2100 t to the bottom of the shaft. Some drilling and trenching done in 1972-73. Status as above.
16	Mitchell lat. 47°51' long. 65°59'	Devonian rhyolite and anglomerate intruded by diabase dykes.	quartz-chalcopyrite pyrite	Assays: Cu-1-6.35% Ag-1 oz/t		Alcock, 1941 Greiner, 1960 Dome Expl. Ltd. 1960	In 1960 Dome Exploration Ltd. drilled 4 holes, and did some trenching. Staked by individuals.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
17	Henry Brook lat. 47°53' long. 65°53'	Devonian rhyolites andesite	pyrite chalcopyrite sphalerite	Assays: Zn-0.50% Ni-0.013%	Showing located in 1959 by A. C. Willett and J. W. McCarthy and staked.	Alcock, 1941	In 1959 optioned by Noranda Ltd., who carried out geochemical and geological surveys. In 1960 Rio Tinto Canex Ltd. optioned property and drilled 4 holes. In 1967 2 more holes drilled. Staked by individuals.
18	Turgeon lat. 47°53' long. 65°53'	Ordovician jasper and basalt of the Fournier complex	massive and disseminated pyrite-chalco-pyrite, sphalerite with minor bornite and covellite,			Greiner, 1960 Porter, 1971	In 1959 drilled (2 holes) by Noranda and in 1960 (4 holes) by Rio Tinto (Horan Mines Ltd.). Mining License Industrial Mineral Ltd.
19	Guitar Brook lat. 47°51' long. 65°49'	Ordovician andesite and tuffs intruded by gabbro and diabase dykes.	pyrite arsenopyrite sphalerite galena chalcopyrite veinlets.	The best intersection in diamond hole: Pb-2.00-2.82% Zn-0.41-1.69% Ag-0.82-2.27 oz/t		Constable, 1973 Greiner, 1960	In 1966 4 drill holes. In 1970 one. (narrow and low-grade mineralization discovered in diamond drilling). Staked by Imperial Oil.
20	Keymet lat. 47°48' long. 65°48'	Ordovician phyllite metagraywacke conglomerate limestone, Elmtree Group		Assays from production: Cu-0.25% Pb-2.44% Zn-2.59% Ag-0.99 oz/ton	Discovered in 1880.	Alcock, 1935 Greiner, 1960 Keymet Mines Ltd. 1954 Johnston, 1968	In 1883 Elm Tree Mining Company trenched the showing and sank a 66-foot shaft. In 1918 one hole drilled by N.B. Government. In 1939-3 holes by Mr. J. Dunlop. In 1941, 14 holes. In 1947, 7 holes by N.B. Gov't, In 1950, 17 holes by New Calumet Ltd., In 1967 4 holes by Chaleur Metals Ltd. From 1952 owner Keymet Mines Ltd. constructed mill and sank a shaft to 1020 feet. More underground drilling. Production suspended in 1956. Total production 64,681 tons. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
21	Elmtree #5 lat. 47°49' long. 65°51'		veins of quartz-calcite-sphalerite-galena-chalcopyrite-pyrrotite			Greiner, 1960 Marleau, 1969	Trenched in 1947 by N.B. Dept. Lands & Mines
22	Elmtree #2 lat. 47°49' long. 65°50'	Ordovician phyllite, meta-graywacke, conglomerate of Elmtree Group		Cu-0.27% Pb-11.50% Zn-5.38% Ag-1.80 oz/t		Bergman,et al, 1966 Marleau, 1969	In 1972 Credo Mining Ltd. and Amigo Mines Ltd. drilled 4 holes.
23	Elmtree #6 lat. 47°49' long. 65°50'			Zn-7.41-9.5% Pb-0.50% Cu-0.10% Ag-2.0-4.52 oz/t			In 1964 Stairs Expl. and Mining Co. Ltd. drilled 4 holes.
24	Elmtree #3 lat. 47°48' long. 65°49'						In 1969, Credo Mining Ltd. and Amigo Mines Ltd. drilled 3 holes.
25	Elmtree #9 lat. 47°48' long. 65°51'			grab sample: Pb-1.81% Zn-2.77% Ag 0.91 oz/t			In 1954, N.B. Mining Corporation Ltd. trenched the showing.
26	Elmtree #4 lat. 47°48' long. 65°50'		(massive sphalerite-galena-chalcopyrite vein 20" thick)	Max. Zn-11.85% other assays: Cu-0.38% Pb-1.15% Zn-2.6-3.3% Ag-1.2 oz/ton		Newman, 1962	In 1962 New Jersey Zinc Expl. Company (Canada) Ltd. drilled 3 holes, in 1969 Credo Mining Company Ltd. and Amigo Mines Ltd. drilled one hole. Open.
27	Kadran lat. 47°47' long. 65°51'	Ordovician marble and cherty hornfels of Elmtree Group.	massive and disseminated pyrite-pyrrotite-chalcopyrite-sphalerite mineralization	The best assays: Zn-7.25% Cu-0.34% Ag-1.92 oz/t		Greiner, 1960 O'Donnell, 1963 Kirwan, 1968	In 1955, 2 holes by American Metal Co. In 1963, 10 holes by Bathurst Silver Mines Ltd. In 1965, 14 holes by East Ventures Ltd. and in 1968, 10 more. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
28	Melanson Brook lat. 47°44' long. 65°59'	Ordovician phyllite Elmtree Group (to the N) and Silurian conglomerate graywacke, sandstone and limestone (to the SE)	minor pyrite chalcopyrite galena sphalerite with azurite malachite			Baldwin, 1965 Skinner, 1974	In 1965, M. J. Boylen trenched the prospect and drilled 4 holes. Open.
28a	Melanson Brook West lat. 47°43' long. 66°00'	As above	minor pyrite galena sphalerite as disseminations and fracture fillings.			As above	Open.
29	Beresford lat. 47°42' long. 65°51'	Silurian cherty hornfels, close to contact with Devonian granite.	lens of magnetite chalcopyrite pyrite sphalerite pyrrotite arsenopyrite molybdenite mineralization interlaminated with the skarn (average width of lens approx. 20').	Reserves 200,000 t grading Cu-1.75%		Bachinski, 1965, 1969 Ninacs, 1971 Sawyer, 1962 Skinner, 1974	Drilled by Noranda from 1959-62, and by Mija Mines Ltd. in 1970-71 (6 holes). Mining License Beresford Mines Ltd.
31	Nicholas Denys No. 3 lat. 47°42' long. 65°53'	Devonian quartz monzonite granodiorite	pyrite molybdenite sphalerite galena chalcopyrite	0.03% MoS_2 (in 30 foot section of drill hole)		Baldwin, 1965 Davies, 1969 Skinner, 1974	In 1964, N.B. Molybdenum Mines Ltd. drilled 3 holes to test geochemical anomaly.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
32	Nicholas Denys No. 5 lat. 47°42' long. 65°52'	Devonian quartz monzonite granodiorite, close to the contact with Silurian cherty hornfels	calcite sphalerite galena			Baldwin, 1965 Davies, 1969 Skinner, 1974	In 1964, N.B. Molybdenum Mines Ltd. drilled 2 holes.
33	Nicholas Denys No. 9 lat. 47°42' long. 65°52'	Devonian quartz monzonite, granodiorite intruded into Silurian cherty hornfels	magnetite pyrrhotite pyrite sphalerite galena chalcopyrite arsenopyrite	Best assays from drilling: Zn-3.03% Pb-4.38% Cu-0.19% Ag-0.66 oz/t		Davies, 1969 Skinner, 1974	Cominco Ltd. trenched and drilled 3 holes.
35	Nicholas Denys No. 8 lat. 47°41' long. 65°52'	Devonian quartz monzonite and granodiorite close to Silurian cherty hornfels.	magnetite minor chalcopyrite sphalerite. galena			Davies, 1969 Skinner, 1974	In 1964, Quebec Sturgeon River Mines Ltd. drilled 3 holes.
36	Lavigne Brook lat. 47°42' long. 65°52'	As above	quartz carbonate arsenopyrite chalcopyrite veins	The best assays in intersection in hole M-71-9: Cu-0.34% Pb-0.25% Zn-0.18% Ag-10.0 oz/t		Davies, 1969 Ninacs, 1971 Skinner, 1974	In 1971, Mija Mines Ltd. trenched the showing and drilled 6 holes. Some areas open some staked by individuals.
37	South Stephens Brook lat. 47°42' long. 65°51'	As above		Assays: Cu-0.05-0.12% Pb-0.19-1.14% Zn-1.48-2.23% Ag-0.96-1.63 oz/t		Davies, 1969 Ninacs, 1971 Skinner, 1974	In 1969, trenching conducted by Mija Mines Ltd. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
38	Rocky Brook No. 2 lat. 47°41' long. 65°55'	Devonian quartz monzonite and granodiorite close to Silurian cherty hornfels.	pyrrhotite sphalerite chalcopyrite pyrite	The best assays: Cu-6.45% Zn-10.84% Ag-2.00 oz/t Au-9.03 oz/t		Davies, 1969 Skinner, 1974	In 1949-50, 5 drill holes put down. In 1950, 17 holes by Rocky Brook-Mill Stream Syndicate. Mining license North American Rare Metals Ltd. and Millstream Mines Ltd.
39	Rocky Brook No. 3 lat. 47°41' long. 65°54'	Silurian graywacke and Ordovician Tetagouche Group	sphalerite and galena disseminated			Davies, 1969	Status as above.
40	Pine Tree lat. 47°41' long. 65°53'	Ordovician Tetagouche Group-meta-sediments	lenses of quartz-calcite-sphalerite-galena- minor pyrite and pyrrhotite	105.560 t grading: Pb-2.82% Zn-3.40% Ag-2.35 oz/t		Davies, 1969 Smith, 1955	Property acquired by Rocky Brook-Millstream Syndicate in 1949, optioned to M. J. O'Brien Ltd. in 1951 and purchased by Quebec Sturgeon River Mines Ltd. in 1954. Status as above.
41	Half-Mile lat. 47°41' long. 65°53'	As above	Two lenses of quartz-calcite-sphalerite-galena and zone of disseminated pyrite-pyrrhotite	N Vein - 17,200 t grading: Pb-4.47% Zn-3.90% Ag-2.50 oz/t S Vein - grading 6,250 t: Pb-2.24% Zn-3.27% Ag-3.36 oz/t		Davies, 1969 Smith, 1955	As above.
42	Millstream Bridge lat. 47°41' long. 65°52'	Ordovician meta-graywacke and phyllite intruded by feldspar porphyry dykes.	veins of quartz-carbonate-sphalerite	The best intersection:(75 feet) Pb-4.7% Zn-5.4% Ag-0.07 oz/t Au-12.9 oz/t Cd-0.11%		Cheriton, 1966 Davies, 1969 Ninacs, 1971 Skinner, 1974	In 1963, Bathurst Silver Mines Ltd. drilled 4 holes, in 1964, 3 more. In 1970, Mija Mines drilled 1 hole. Status as above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
43	Millstream, No. 1 lat. 47°41' long. 65°52'	Ordovician meta-graywacke and phyllite intruded by feldspar porphyry dykes.	narrow veinlets of quartz-carbonate-pyrite-galena-sphalerite.	The best intersection:(1.6 feet) grading Pb-4.26% Zn-3.20% Ag-9.40 oz/t Au-0.03 oz/t		Davies, 1969 Ninacs, 1971 Skinner, 1974	In 1970, Mija Mines Ltd. drilled 2 holes. Mining License North American Rare Metals Ltd. and Millstream Mines Ltd.
44	Millstream, No. 3 lat. 47°41' long. 65°50'	Silurian graywacke	sphalerite in calcite veins			Davies, 1969	Status as above.
45	Bradley Brook lat. 47°40' long. 65°57'	limey argillite and graywacke probably Ordovician	quartz veins with galena sphalerite pyrite minor arseno-pyrite.			Davies, 1969	Status as above.
46	North American Rare Metals lat. 47°40' long. 65°57'	Ordovician Tetagouche Group, argillite, subgraywacke phyllite intruded by diorite-gabbro.	veins of carbonate quartz-pyrite-galena-sphalerite arsenopyrite.	Pb-Zn 2.0% Ag-4 oz/t Au-0.02 oz/t	Discovered in 1968 as a result of geochemical sampling.	Davies, 1969 Carter, 1970-1971 Constable, 1972	During 1968-71 exploration work included surface drilling (74 holes) underground crosscutting 367 feet, drifts 362 feet, raise 115 feet and underground drilling (18 holes).
47	North American Rare Metals (West) lat. 47°39' long. 65°58'	Ordovician slate and graphitic phyllite	Two quartz-carbonate-pyrite-galena-sphalerite-jamesonite veins.	18" veins contain Ag-235 oz/t Au-0.04 oz/t In drillings (700 feet) grading Pb-Zn 4.5% Ag-5.5 oz/t		Davies, 1969 Carter, 1973 Skinner, 1974	In 1963, Great Northern Development Corporation Ltd. trenched showing and drilled 4 holes. Mining License North American Rare Metals Ltd.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
48	Hachey-Shaft lat. 47°40' long. 65°55'	Ordovician sericite-chlorite and chlorite-sericite schist with feldspar and quartz augens	vein type of deposits of pyrite-sphalerite-galena.	Shaft probable ore: 82,500 t- Pb-1.17% Zn-4.58% Ag-3.36 oz/t possible ore: 262,000 t- Pb-2.28% Zn-3.30% Ag-3.26 oz/t Hachey Probable ore: 42,000 t- Pb-1.78% Zn-2.71% Ag-7.39 oz/t Possible ore: 105,000 t- Pb-1.78% Zn-2.71% Ag-7.99 oz/t	First reported in 1891.	Davies,et al, 1969 Potter, Davies, 1971	In 1950 shaft sunk to 500 feet. Operation ceased in 1959. (Two prospects-Shaft and Hachey).
49	Rocky Turn lat. 47°38' long. 66°04'	Ordovician chlorite-sericite schist	Pyrite-sphalerite-galena.	200,000 t grading: Cu-0.3% Pb-1.5% Zn-7.0% Ag-2.3 oz/t		Burgan, 1963 Buzas, 1966 1966 Davies, 1969	In 1956, 9 holes drilled by Anaconda American Brass Ltd. In 1965, 3 more holes drilled.
50	Amstrong D lat. 47°37' long. 66°03'	Ordovician sericitic feldspar-quartz augen schist.	pyrite-chalcopyrite-sphalerite-galena.	Cu-0.2% Pb-0.5% Zn-0.7% Ag-0.2 oz/t		Buzas, 1972 Davies, 1959	In 1971, 2 holes drilled by Anaconda American Brass Ltd.
51	Amstrong A lat. 47°36' long. 66°02'	As above	As above	Reserves: 3.5 mil.t Cu-0.09% Pb-0.42% Zn-2.29% Ag-0.07 oz/t		Burgan, 1964 Davies, 1959	Anaconda American Brass Ltd. drilled up to 1964 total 26 holes.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
52	Armstrong C lat. 47°36' long. 66°04'	Ordovician sericitic feldspar-quartz augen schist.	massive and disseminated pyrite-chalcopyrite with minor sphalerite and galena.	average grade: Cu-0.16%		Buzas, 1972	In 1971, 2 holes drilled by Anaconda American Brass Ltd.
53	Armstrong B lat. 47°35' long. 66°03'	As above	disseminated pyrrhotite-pyrite- chalcopyrite massive banded pyrite-sphalerite-galena (Zn zone).	zinc-lead zone, grade: Cu-0.4% Pb-0.5% Zn-3.8% Ag-0.4 oz/t		Buzas, 1972	Anaconda.
54	Orvan Brook lat. 47°38' long. 66°08'	Ordovician sericite schist (meta-rhyolite) containing quartz and feldspar augens.	massive pyrite-sphalerite-galena- chalcopyrite-arsenopyrite-tetrahedrite	Mineralization average 3 feet thick, 7,000 feet long. W of Orvan Brook: 150,000 t grading: Zn-7.13% Cu-0.20% Pb-3.27% Ag-2.52 oz/t	Known as early as 1860 and explored in 1938.	Alcock, 1941 Cunningham-Dunlop, 1963 Davies, 1959 Lovell, 1966 Tupper, 1954	In 1938, 28 holes drilled by Tetagouche Expl. Co. later optioned to American Smelting and Refining Co. who drilled in 1945, 33 holes. New Calumet Ltd. drilled in 1954, 29 holes. Deep drilling in 1963-8 by Tetagouche Expl. Co. Conwest and others.
55	Orvan Brook South lat. 47°37' long. 66°08'	Ordovician phyllite and on the contact sericite-chlorite schist.	massive pyrite-pyrrhotite-chalcopyrite-sphalerite-galena.	Best intersection 2.8 feet: grading: Cu-1.15% Pb-0.20% Zn-1.45% Ag-0.22 oz/t	Discovered in 1959 by Anaconda American Brass Ltd.	Davies, 1959	In 1969 drilled 4 holes to test showing to a depth of 100 feet. Status as above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
56	Caribou lat. 47°34' long. 66°18'	Ordovician phyllite, interlayered quartz-sericite schist (meta-rhyolite) and feldspar-quartz augen schist.	massive sulphides (approx. width 100 feet) and pyrite-magnetite-sphalerite-galena-chalcopyrite with minor arsenopyrite-marcasite-pyrrhotite-bornite-tennantite-hematite	Open pit reserves: 1 mil. tons grading: Cu-3.4% Pb-1.1% Zn-2.6% Underground reserves: 49.4 mil. tons grading: Cu-0.47% Pb-1.7% Zn-4.48% Ag-1.71 oz/t Au-0.048 oz/t	Discovered by drilling in 1955, following airborne and ground electromagnetic survey.		W part owned by Anaconda Canada Ltd. (67.5%) Cominco (22.5% and Chaleur Bay Syndicate (10.6%). Underground development during 1965-70 consisted of an adit. In 1970 copper concentration completed, in 1973 operation suspended. 85818 Canada Ltd. and Caribou-Chaleur Bay.
57	Murray Brook lat. 47°32' long. 66°26'	Ordovician phyllite in contact with meta-basalt and quartz-feldspar.	lens of massive pyrite-sphalerite-chalcopyrite-galena	Ore reserves: 4.3 mil. tons grading: Cu-0.16% Pb-2.08% Zn-5.55% Ag-2.08 oz/t Au-0.016 oz/t (zinc-lead zone).	Discovered in 1956.	Dearden, 1964 Fleming, 1964 Helmstaedt, 1971 Little, 1971 Theriault, 1971	In 1956-57, 47 holes drilled underground, In 1960, 8 holes; in 1964, 6 more holes. In 1970 one diamond drill hole put down. In 1973, Kennco optioned the deposit to Gowganda Silver Mines Ltd. Kennco and others.
58	Upsalquitch River lat. 47°31' long. 66°29'	Ordovician phyllite schist.	pyrite, pyrrhotite sphalerite galena and chalcopyrite in quartz carbonate veins.			Abbot, 1965	Clearwater Mines carried out a program of diamond drilling. Clearwater Mines Ltd.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
59	Restigouche lat. 47°30' long. 66°30'	Ordovician sericite-chlorite and chorite-sericite schist (meta-rhyolite)	lens of massive to disseminated pyrite-sphalerite-galena-chalcopyrite-minor tetrahedrite	one drill hole intersected massive sulphide (52.1 feet): Cu-0.2% Pb-2.5% Zn-6.7% Ag-0.3 oz/t (zinc-lead zone) Reserves 4 mil. tons grading: Cu-0.31% Pb-4.6% Zn-5.9% Ag-2.45 oz/t Au-0.02 oz/t	Discovered as result of stream sediments survey by Selco Expl. Ltd. in 1954.	Crossley, 1970 Helmstaedt, 1971 Newman, et al, 1962 Rebagliati, 1970 Sharpley, 1967 Theriault, 1971	In 1957, Selco optioned property to New Jersey Zinc. Drilled in 1958-62. In 1965 optioned to Teck Corp. (Keevil Mining Group). More drilling in 1965, 1969. In 1971, the property optioned to Gowganda Silver Mines Ltd., 11 holes put down. Placer Development Ltd.
60	Restigouche North lat. 47°30' long. 66°34'	As above	disseminated pyrite-sphalerite-chalcopyrite-galena	zinc-lead zone: Pb-0.1% Zn-0.7%		Newman, et al, 1962	As above.
61	Portage Lake lat. 47°29' long. 66°36'	Devonian conglomerate greywacke-argillite, interlayered with basalt & rhyolite.	veinlets of calcite-quartz-pyrite-galena-sphalerite-chalcopyrite.			Helmstaedt, 1971 Newman, et al, 1962	In 1957, New Jersey Zinc trenched the occurrence and drilled, 7 holes and during 1958-60 one more hole. Status as above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
62	Third Portage Lake lat. 47°30' long. 66°37'	volcanics Devonian ?	pyrite sphalerite, galena, chalcopyrite	Reserves: 3 mil.tons grading: Cu-0.34% Pb-5.24% Zn-6.88% Ag-2.56 oz/t Au-0.031 oz/t		McAllister, 1960	Property optioned to New Jersey Zinc Expl. Ltd. in 1956 which carried out geochemical survey and diamond drilling. In 1965, Tech. Corp. obtained control of deposit-reserves 2.619,666 tons averaging: Zn-6.76% Pb-5.49% (annual report)
69	Aumacho lat. 47°27' long. 65°41'	diorite, tuff and quartzite	pyrite, pyrrhotite, sphalerite, chalcopyrite, galena.			Abbott, 1965	In 1956, Aumacho River Mines Ltd. conducted geophysical survey and drilling. Key Anacon Mines and others.
70	Key Anacon Mines lat. 47°26' long. 65°42'	Ordovician Tetagouche Group graphite-chloritic schist.	pyrite, galena, sphalerite, pyrrhotite, chalcopyrite.	In 1964, Reserves: 1.5 mil. tons grading: Pb-2.35% Zn-6.47% Ag-2.16 oz/t In 1969, reserves: proven; 939,000 tons. Drill indicated: 1,011,000 tons Cu-0.07-0.42% Pb-2.03-2.35% Zn-5.73-5.93% Ag-2.12-2.52 oz/t	Known since 1860.	McAllister, 1960 Roy, 1961	First staked in 1946 by P. Leger of Bathurst. Explorations begun in 1946-47(diamond drilling and geophysical work). In 1951-52 airborne survey outlined an anomaly. In 1952 more exploration work and drilling. In 1954, shaft begun. Development suspended in 1957. In 1964, property optioned to Key Anacon Mines Ltd. and plans made to reopen exploration which has continued intermittently since. Presently held by Irving interests.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
71	Cold Branch Brook lat. 47°26' long. 65°42'	Ordovician-Tetagouche Group, volcanic and sedimentary rocks and Pennsylvanian sandstone, siltstone, shale	zinc mineralization			Canadian Mines Handbook 1972-73 Mineral Resources Branch; corporation files	In 1956, the property held by Aumacho River Mines Ltd., Joburka Gold Mines Ltd., United Montauban and New Highridge Mining Company Ltd. In 1962, Aumacho was renamed as Urban Quebec Mines Ltd. which in 1966 carried out geophysical survey and drilled 2 holes. Key Anacon Mines.
73	Fab lat. 47°26' long. 65°50'	2 types: 1) Ordovician Tetagouche Group quartzite greywacke, argillite, tuff sericite schist interbedded with quartz porphyry. 2) Devonian granite.	1)pyrite-chalcopyrite pyrrhotite with minor zinc and silver 2) tin-molybdenum		In 1962-63 discovered tin-molybdenite deposit.	Holyk, 1956 Wright, 1940	In 1950, geochemical, geophysical surveys and drilling. From 1951 under name Fab Metal Mines Ltd. In 1962-63 geochemical and magnetic survey. Brunswick Mining & Smelting Co. and others.
74	Nepisiquit Falls lat. 47°25' long. 65°48'	porphyry interbeded with quartzite argillite, iron formation, rhyolite of Ordovician age.	galena sphalerite pyrite pyrrhotite copper, minor arsenopyrite.			Canadian Mines Handbook 1953 Young, 1911	In 1953, property owned by New Highridge Mining Co. In 1954, carried out magnetic survey and diamond drilling. Limited work done in 1958 and name of the company changed to Combined Metal Mines Ltd. In 1963, gravity survey and more drilling. Status as above.
75	Austin Brook lat. 47°24' long. 65°49'	Ordovician age: quartz-feldspar augen schist.	lens of massive pyrite, pyrrhotite, sphalerite, glaena	Reserves: 1 mil tons grading: Zn-2.93% Pb-1.86% Ag-1.0 oz/t	Discovered in 1897.	Boyle, Davies, 1964 Davies, 1972	In 1952, property optioned to M. J. Boylen who drilled 41 holes. Status as above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
76	Brunswick No. 6 lat. 47°24' long. 65°49'	Ordovician iron formation and meta-rhyolitic tuff, quartz-feldspar augen schist and sericite-chlorite schist	lens of fine-grained pyrite sphalerite-galena-chalcopyrite-pyrrhotite-magnetite with minor arsenopyrite-tetrahedrite.	At the end of 1972 reserves: 4,323 mil. tons Zn-6.09% Pb-2.25% Cu-0.41% Ag-2.07 oz/t. Below pit limit reserves: ~4.5 mil. tons	Iron Formation outlined in 1906 by magnetic survey. 1952 discovered as a result of recognition mineralization in the Austin Brook by airborne magnetic survey and follow-up at UNB.	Boyle, Davies, 1964 Davies, Smith, 1966 Rutledge, Pertold, 1972 Stockwell, Tupper, 1966.	The property was acquired by Brunswick Mining and Smelting Co. Ltd. from M. J. Boylen and Noranda Mines Ltd. obtained control of Brunswick in 1967. Production begun in 1966. At the end of 1972, 7.5 mil tons of ore had been milled. Bruns. Min. & Smelt. Corp. and others.
77	Brunswick No. 12 lat. 47°28' long. 65°54'	As above	two lenses of mineralization of fine-grained pyrite-sphalerite, galena, chalcopyrite, pyrrhotite with minor arsenopyrite, tetrahedrite-bornite.	Reserves: (2,800 feet) 84,720 mil. tons grading: Zn-9.35% Pb-3.84% Cu-0.27% Ag-2.78 oz/t (zinc-lead zone)	Discovered in 1953.	As above	In 1953, electromagnetic survey was conducted over magnetic anomaly and drilling resulted in discovery of the ore body. Property acquired by Brunswick Mining and Smelting Co. Ltd. from M. J. Boylen. In 1967, Noranda controlled the property. Production began in 1964, and three shafts were sunk. At the end 1973, 10 mil. tons of ore had been milled. As above.
78	Headway lat. 47°27' long. 65°54'	Ordovician quartz augen schist and metabasalt	massive and disseminated pyrite-sphalerite-galena-chalcopyrite	Reserves: 290,000 tons Averaging: Cu-1.43% Pb-2.10% Zn-6.16% Ag-0.61 oz/t	Discovered in 1957 (high grade float).	Allcott, 1973	Deposit was trenched and drilled in 1958-16 holes 1965-11 holes 1968-18 holes. As above.
79	Pabineau lat. 47°27' long. 65°55'	Ordovician meta-rhyolite and quartz augen schist	lenses of disseminated pyrite-pyrrhotite-galena-sphalerite-minor chalcopyrite	Zn-2.3% Pb-0.8%		MacArthur, 1973	During 1953-56, deposit was trenched and outlined by 46 drill holes by Quebec Smelting and Refining Ltd. Status as above.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
80	Lovalls Lake (Quebec Smelting Refining) lat. 47°31' long. 65°55'	Ordovician Tetagouche Group, quartzite, schist, arkose tuff, congiomerate.	2 lenses of sulphide	Cu-0.31% Pb-4.03% Zn-9.8% Ag-13.26% (from drilling)	Discovered in 1953.	McAllister, 1960	Exploration since 1953. In 1956, 46 diamcnd drill holes put down. Sabina, Umex.
81	Willett lat. 47°25' long. 66°00'	Ordovician, Tetagouche Group, slates.	massive sphalerite-galena chalcopyrite-pyrite	Cu-3.17% Pb-12.83% Zn-9.78% Ag-13.8 oz/t Au-0.118 oz/t	Showing discovered by C. Willett in 1975.	Williams, 1975 Smith, Skinner, Poole, 1973	Newmont Mining Corporation drilled in 1976, 6 holes. Status as above.
82	Boucher Brook lat. 47°26' long. 66°01'	Ordovician Tetagouche Group, meta-rhyolite tuff and on the contact with slates.	Disseminated pyrite-chalcopyrite-galena	In intersection Zn-0.47-2.42% Pb-0.25% Cu-0.29%		Gill, 1958 Smith, Skinner, Poole, 1973	Cominco Ltd. drilled 6 holes in 1958. Status as above.
83	California Lake lat. 47°27' long. 66°08'	Ordovician Tetagouche Group of graphitic slate, on contact with quartz-feldspar porphyry and meta-basalt.	lens of massive pyrite-sphalerite-galena-chalcopyrite	The best intersection: Cu-0.51% Pb-2.56% Zn-7.86% Ag-2.44 oz/t Au-0.05 oz/t		Lawroner, 1974 Lincoln, 1975 MacNeill, 1974 Smith, Skinner, Poole, 1973	Drilled in 1956, (6 holes) by American Metal Co. Ltd. In 1959 (3 holes) by Cominco, and in 1964 (2 holes) by Ryanor Mining Co. Ltd. In 1965, 4 holes by Obuska Lake Mines Ltd. In 1973, 3 holes by Conwex Expl. and in 1974, 4 holes by Northumberland Mines Ltd. Bruns. Min. & Smelt. Corp. and others.
84	Ahean Brook lat. 47°27' long. 66°11'	Ordovician Tetagouche Group, meta-rhyolite tuff, slates and jasper.	massive pyrite-sphalerite, galena, chalcopyrite	Reserves: 70,000 tons grading: Cu- 0.80% Pb-5.27% Zn-9.80% Ag-1.93 oz/t		McGregor and Robertson, 1973 Power, McGregor 1969 Smith, Skinner, Poole, 1973	Drilled in 1959 by McIntyre-Porcupine, 15 holes. In 1961, by Dome Expl. 2 holes, in 1964 by Mount Costingan, 3 holes and during 1968-71 by Findathoran Syndicate about 55 holes. Individuals.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
84a	Ahean Brook Second showing lat. 47°28' long. 66°12'	Ordovician silicic volcanic rocks, rhyolite porphyry and quartz feldspar augen schist.	high-grade zinc-lead sulphides		Deposit discovered by drilling in 1968 (Findathoran Syndicate).	Potter, and Davies, 1970	Staked by individuals.
85	Selco lat. 47°24' long. 66°10'	Ordovician Tetagouche Group meta-rhyolite tuff and on contact with slate.	disseminated pyrite-sphalerite-galena-chalcopyrite		Existence of mineralization was first indicated by geochemical anomaly in a stream sediments survey by Seclo during 1953-54.	Edmunds, 1964 Smith, Skinner, Poole, 1973	Drilled by Bogamac during 1956-57 (10 holes) In 1958, 3 holes drilled by Tribag, and in 1953-63, 11 holes by Cominco. Cominco and others.
86	Wedge lat. 47°24' long. 66°08'	Ordovician meta-rhyolite and augen schist, graphitic slates.	Massive pyrite-chalcopyrite-sphalerite-galena, minor tennantite.	Reserves: 2.35 mil. tons grading: Cu-2.87% Pb-0.67% Zn-2.11%	Deposit discovered by Cominco Ltd. in 1956 and shaft completed in 1960.	Constable, 1973 Meyer, 1966 Smith, Skinner, Poole, 1973.	Production from 1962-68, 700 /day when closed down. Cominco and others.
87	Canoe Landing Lake lat. 47°25' long. 66°06'	Ordovician slates and graphite argillite and on contact with meta-basalt.	massive pyrite-chalcopyrite sphalerite galena.	Reserves: 6 mil. tons grading: Cu-0.5% Pb-0.5% Zn-1.5% Ag-1.5 oz/t Au-0.04 oz/t	Deposit discivered by Baie Holdings (a subsidiary of Rio Tinto).	Cheriton, 1966 Constable, 1973 Smith, Skinner, Poole, 1973	Clearwater Mines Ltd. and others.
88	Swamp Lake E lat. 47°24' long. 66°01'	Ordovician Tetagouche Group slate	disseminated pyrite-sphalerite-galena-chalcopyrite	grading in intersection Cu-0.42% Pb-0.17% Zn-0.20-0.40%		McGregor, 1969 Smith, Skinner, Poole, 1973	Drilled in 1955 by Noranda Mines Ltd., 5 holes. In 1963, by Rio Tinto (one hole) and Cominco in 1965, 2 holes.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
89	Nepisiquit A lat. 47°23' long. 66°02'	Ordovician argillite near contact with meta-rhyolite and augen schist.	lenses of massive pyrite-pyrrhotite-sphalerite-galena-chalcopyrite	Reserves 1.7 mil. tons Cu-0.4% Pb-0.6% Zn-2.8% Ag-0.3 oz/t		Cominco Ltd., 1966 Smith, Skinner, Poole, 1973	The deposit is too low-grade to be mineable. In 1956, drilled by Kennco Expl. Ltd. and in 1965 by Cominco Ltd. (26 holes). Cominco and others.
90	Nepisiquit B lat. 47°22' long. 66°02'	As above	As above	Reserves: 1.5 mil. tons grading: Cu-0.1% Pb-0.4% Zn-1.9% Ag-0.3 oz/t		As above	In 1956 drilled by Kennco Expl. Ltd., 2 holes; In 1965 by Cominco Ltd. (20 holes). Status as above.
91	Nepisiquit C lat. 57°22' long. 66°02'	As above	As above	Reserves: 700,000 tons grading: Cu-0.4% Pb-0.7% Zn-2.1% Ag-0.6 oz/t		As above	Drilled in 1965 by Kennco Expl. Ltd., (11 holes). Status as above.
92	Mosher C lat. 47°22' long. 66°03'	Ordovician Tetagouche Group sediments.	zinc			Map 1-1957 Bathurst-Newcastle Area	Property staked by Kennco Expl. Ltd. in 1957-58 and some diamond drilling was carried out. In 1959, the Mosher Group was acquired by Consolidated Mining and Smelting Company of Canada Ltd.
93	Astrabrun South lat. 47°22' long. 65°59'	Ordovician, Tetagouche Group, slates	disseminated pyrite-sphalerite-galena.	Pb-0.18% Zn-0.44%		Evans, 1955 Skinner, 1974	Drilled by Noranda Mines Ltd. in 1955 (5 holes).

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
94	Nine Mile Brook lat. 47°23' long. 65°56'	Ordovician meta-rhyolite and meta-sedimentary rocks	massive to disseminated pyrite-galena-sphalerite-chalcopyrite-tetrahedrite-barite-magnetite	grading in intersections: Cu-0.2-1.8% Pb-0.6-2.8% Zn-0.6-1.9% Ag-0.05 oz/t Au-0.01-0.05 oz/t	Discovered in 1964 by C. Smith (in road construction).	Davies, 1969 Gummer, 1969 Gummer, Hatty, 1969	Optioned by Louvicourt Goldfield Corp. in 1966 and tested by drilling in 1965 (21 holes) in 1966 (4 holes) in 1967 (4 holes). Essex now.
95	Headvue lat. 47°24' long. 65°56'	Ordovician meta-rhyolite and contact with meta-sedimentary rocks.	disseminated pyrite-sphalerite-galena-chalcopyrite	grading in intersections: Cu-0.1% Pb-0.1-0.2% Zn-0.5-1.3% Ag-0.1 oz/t		Gummer, Hatty, 1969	Drilled in 1965 by Louvicourt Goldfield Corp. (4 holes). Open.
96	Gordon Meadow Brook lat. 47°19' long. 65°51'	Ordovician, Tetagouche Group quartz, feldspar porphyry, iron formation chlorite schist.	sphalerite galena chalcopyrite pyrite	Cu-0.01% Pb-0.8% Zn-0.22%		Abbott, 1965	Staked in 1954 by Brunswick Mining & Smelting Group and after preliminary geological and geophysical survey drilled (9 holes). Key Anacon and others.
97	Captain lat. 47°17' long. 65°53'	Ordovician contact between argillite and quartz augen schist.	massive to disseminated layers pyrite, chalcopyrite with minor sphalerite-galena pyrrhotite-magnetite-arsenopyrite.	Reserves: 215,000 tons Cu-1.99% Ag-0.28 oz/t Au-0.017 oz/t	Nov. '78, new discovery of deposit within, Captain, 80' Combined, Pb,Zn-9%.	Ritchie, 1965 Theriault, 1972 Tupper, Bachinski, Boyle, 1968	Captain Mines Ltd. drilled the deposit in 1956-57 (26 holes) In 1963 (2 holes) In 1965, (12 holes). In 1971-72 (4 holes). Sabina and others.
98	North Rock lat. 47°14' long. 65°59'	Ordovician ? schist tuff	sphalerite galena chalcopyrite pyrite pyrrhotite			Abbott, 1965 Map 1-1957 Bathurst-Newcastle area	Geophysical Survey carried out in 1964 and in 1965, 5 holes were drilled. Results of work inconclusive. Status as above.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
99	South Tomogonops lat. 47°14' long. 66°01'	Ordovician Tetagouche Group, feldspar augen schist with meta-basalt.	disseminated pyrite-sphalerite-galena.	Pb-0.08% Zn-0.54%		Anderson, 1969 Sullivan, 1966	In 1966, Consolidated Red Poplar Minerals Ltd. drilled, 4 holes. Conwest Expl. Ltd.
100	Island Lake lat. 47°16' long. 66°00'	Ordovician ? tuff	chalcopyrite sphalerite galena			Abbott, 1965 Map 1-1957 Bathurst-Newcastle Area	Heath Steel Mines Ltd. and others.
101	Heath Steel B lat. 47°18' long. 66°03'	Ordovician quartz-feldspar augen schist	disseminated pyrrhotite-chalcopyrite-massive pyrite-sphalerite galena minor arseno-pyrite.	Reserves: end of 1970 34.6 mil. tons grading: Cu-1.15% Pb-1.64% Zn-4.55% Ag-1.76 oz/t	Discovered in 1953-54 and shut down from 1958-62.	Deschow, 1960 Gates, 1972 McFarlane, Gates, 1966 MacMillan, 1969 Smith, Skinner, Poole, 1973.	First production in 1975-4000 t/day. Heath Steel Mines Ltd., Consolidated Mining & Smelting Co. and others.
102	Heath Steel A-C-D lat. 47°17' long. 66°05'	Ordovician quartz-feldspar augen schist	massive pyrite sphalerite-galena minor arseno-pyrite, tetrahedrite-tennantite	A,C,D ore body in 1969 estimated at 7.5 mil. tons grading: Cu-1.17% Pb-1.24% Zn-4.57% Ag-1.55 oz/t	Discovered in 1953-54 as a result of an airborne electro-magnetic survey Production began 1957 and shut down in 1958-62.	As above.	The A ore body mined by open pit until 1965. D ore body mined underground. Status as above.
103	Heath Steel E lat. 47°18' long. 66°04'	Ordovician chlorite schist close to augen schist contact	E-Zone consists 3 layers 1) pyrite- 2) magnetite- 3) chalcopyrite pyrrhotite	Ore Reserve 1.3 mil. tons grading: Cu-1.56% Pb-1.95% Zn-4.33% Ag-2.34 oz/t	Discovered in 1953-54 with A-C-D ore body. Production begun in 1957. Shut down from 1958 to 1962. Ore body E not mined to 1974.	Gates, 1972 McFarlane, Gates, 1966 Smith, Skinner, Poole, 1973	Status as above.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
104	Stratmat West Heath Steel N lat. 47°19' long. 66°08'	Ordovician feldspar augen schist and chert chlorite argillite	massive pyrite sphalerite-galena-chalcopyrite with arseno-pyrite tetrahedrite and tennantite	Heath Steel N-5 ore body reserves 600,000 t grading: Cu-0.45% Pb-4.59% Zn-10.16% Ag-1.23 oz/t The Stratmat (West) Zone reserves: 863,000 t grading: Pb-4.0% Zn-9.5% Ag-1.2 oz/t	Discovered in 1961.	MacMillan, 1969 Smith, Skinner, Poole, 1973	Drilled by Cominco (45 holes) and by Heath Steel (20 holes). Cominco and others.
105	Stratmat Main lat. 47°19' long. 66°07'	Ordovician feldspar-quartz-augen schist tuffaceous argillite intruded by 2 gabbro sills.	massive banded pyrite-pyrrhotite-sphalerite-galena-chalcopyrite-arsenopyrite.	Deposit estimated to contain 500,000 tons grading: Cu-2.2% Zn-0.3% and 700,000 tons grading: Zn-6.0% Pb-2.0% Ag-1.9 oz/t	Discovered in 1956 by Stratnat Ltd.	Cominco Ltd., 1961 Johnston, 1959	Stratmat drilled 36 holes. In 1960 the property purchased by Cominco Ltd. and mined with their Wedge Property. Milled at Heath Steel.
106	Stratmat 61 lat. 47°19' long. 66°07'					Smith, Skinner, Poole, 1973	
107	Stratmat Central lat. 47°19' long. 66°07'	Ordovician as above	massive banded pyrite-sphalerite-galena-chalcopyrite	Assays: Cu-1.2% Pb-0.2% Zn-12.1% Ag-2.3 oz/t		Cajka, 1962 Smith, Skinner, Poole, 1973	Drilled by Cominco in 1963 (8 holes) in 1964 (2 holes in 1965 (3 holes) in 1974 (8 holes) and in 1975 (2 holes).

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
108	Stratmat East lat. 47°19' long. 66°07'	Orodivician meta-rhyolite tuff.	pyrite- chalcopyrite sphalerite galena	Reserves: 500,000 t grading: Cu-2.2% Pb-2.07% Zn-0.3-6.0% Ag-1.9 oz/t		Cajka, 1962 Smith, Skinner, Poole, 1973	Drilling by Stratmat Ltd. during 1956-57 (36 holes). In 1961 4 holes) and Cominco in 1963 (1 hole).
109	Half Mile Lake North lat. 47°19' long. 66°18'	Ordovician Tetagouche Group meta-rhyolite tuff, quartz feldspar porphyry	massive to disseminated pyrrhotite-pyrite-sphalerite-galena-chalcopyrite.	Reserves: 811, 810 t grading: Cu-0.39% Pb-0.87% Zn-4.95% Ag-0.29 oz/t Au-0.005oz/t		Huska, 1976 Smith, Skinner, Poole, 1973	During 1955-56 drilled by Golden West Minerals Ltd. In 1969 and 1973 drilled by Keevil Mining Group Ltd. and in 1975 by Mallagani Lake Mines Ltd. (6 holes). Texasgulf and others.
110	Half Mile Lake lat. 47°18' long. 66°19'	Ordovician meta-quartzite and meta-greywacke in contact with quartz-feldspar augen schist.	lead-zinc zone: pyrrhotite-sphalerite-galena-minor chalcopyrite.	Ore reserves (by Texasgulf) ore 5.2 mil.t grading: Cu-0.39% Pb-2.49% Zn-6.57% and 1 mil.t Cu-2.0%		Theriault, 1971 Smith, Skinner, Poole, 1973.	Drilling consisted of 93 holes by Middle River Mining Co. Ltd. (Texasgulf) during 1955-56 and 5 holes by Texasgulf in 1961, 9 holes in 1966 and 3 holes [illegible] west in 1956. Status as above.
111	Little Bald Mountain lat. 47°17' long. 66°19'	As above	Two types of deposit: 1) massive sulphides-pyrite, sphalerite galena and 2) replacing sedimentary schist.	Grading of Texas Gulf Sulphur reserves: Zn + Pb - 9% Cu - 1%	First staked by Middle River Mining Company Ltd. in 1954.		The first diamond drill hole put down in 1955. In 1956 property taken over by Texas Gulf Sulphur which estimated unofficially 3-4 mil. tons ore. Other companies holding claims in 1955 were: Bay Copper Mines Ltd. and Great Sweet Grass Oil Ltd. In 1960 property of Sweet Grass staked by I. C. Stairs and C.G. Cheriton of Bathurst, N.B. Aquitaine.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
112	Orchan Showing lat. 47°19' long. 66°21'	porphyry	pyrite pyrrhotite galena sphalerite			Abbott, 1965	Staked in 1959 by Orchan Mines Ltd.
113	Devil's Elbow lat. 47°26' long. 66°24'	Ordovician meta-sedimentary quartz-chlorite schist and near contact with quartz-feldspar augen schist.	massive to disseminated pyrrhotite-pyrite-chalcopyrite with minor sphalerite-galena	Reserves 400,000 tons (massive) grading: Cu-1.2% and (disseminated) 170,000 t : Cu-0.7%		Helmstead, 1971 London, 1957 Smith, Skinner, Poole, 1973 Theriault, 1971	Drilled by Amex in 1956 (5 holes) Cominco in 1962 (1 hole) and Devil's Elbow Mines Ltd. in 1965 (6 holes). Conwest.
114	Little Nictau Lake lat. 47°24' long. 66°51'	Silurian-Devonian volcanic rocks-phyllitic andesite tuff.	lead and zinc mineralization	Assays (by Asarco Expl. Canada Ltd.) Pb-0.6% Zn-0.20%		Asarco Expl. Canada Ltd., 1970. Davies, 1972	Exploration interest has been not extensive, only ground geophysics and trenching. Staking restricted Carleton provincial park.
115	South Nepisiquit River - West Branch lat. 47°14' long. 66°35'	Ordovician gabbro	pyrite sphalerite chalcopyrite			Descriptive notes, map 37-1962.	Open.
116	Sheephouse Brook lat. 47°09' long. 66°13'	Ordovician schist	chalcopyrite spnalerite galena and silver			Abbott, 1965	Mining License Sereun Ltd. and individuals.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
117	Chester Mines lat. 47°06' long. 66°14'	Ordovician (or earlier) quartz-sericite schist in contact with rhyolite flows and tuff.	massive pyrite-sphalerite-galena-chalcopyrite and disseminated pyrrhotite-pyrite-chalcopyrite.	Ore reserves (by Sullivan) 3.3 mil. tons: Cu-0.83% 1.6 mil. tons Cu-0.63% Pb-0.83% Zn-2.12% and 13 mil. tons: Cu-0.77% (including 3.8 mil. tons grading: Cu-1.5%)	Discovered in 1956 by Kennco Expl. Canada Ltd. and property sold to Chesterville Mines Ltd.	Petruk, 1959 Theriault, 1970 van de Poll, 1963	Drilled in 1959-60. In 1963 property optioned to Newmont Mining Corp. who drilled 3 holes and in 1966 to Sullivan Mining Group Ltd. (Chester Mines Ltd.), who drilled S1-438 hole and some more development done in 1974. Chester Mines Ltd.
118	North Sevogle River lat. 47°07' long. 66°03'	Ordovician Tetagouche Group phyllite	disseminated pyrite-sphalerite-galena	Pb-0.15% Zn-0.30%		Arjon Gold Mines Ltd., 1955 Shepard, 1955	Drilled in 1955 by Arjon Gold Mines (5 holes). Open.
119	Stony Brook lat. 47°09' long. 65°60'	Ordovician Tetagouche Group, quartz veins and quartz-feldspar porphyry sills.	sphalerite galena	Assays from one sill: (16" thick) Cu-0.08% Pb-0.38% Zn-1.78% Ag-0.08 oz/t		Quesnel, 1971	Trenched by W. Quesnel in 1971. Subina Industries Ltd.
120	Mullin Stream lat. 47°03' long. 65°59'	Ordovician Tetagouche Group quartzite	disseminated pyrite-chalcopyrite sphalerite	Assays: (by Colombia) Cu-0.08% Zn-3.85%		Holbrook, 1966 Sherwood, 1956	In 1955-56 Oka - Bathurst Mining Corp. Ltd. trenched two showings and drilled 19 holes. In 1966 Columbia Placers Ltd. drilled 2 holes. Open.
121	Little Sevogle River No. 1 lat. 47°00' long. 65°59'	Ordovician Tetagouche Group meta-basalt	disseminated pyrite-chalcopyrite-galena-sphalerite.	Assays: (6" section) Cu-0.15% Pb-0.15% Zn-0.08%		Holbrook, 1966	Drilled in 1966 by Columbia Placers Ltd. (2 holes). Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
122	Little Sevogle River lat. 47°00' long. 65°59'	Ordovician Tetagouche Group meta-basalt	disseminated pyrite-chalcopyrite-galena-sphalerite.			Mineral Occurrences Map, N.B., 1977	Open.
123	Long Lake lat. 47°04' long. 66°54'	Ordovician greywacke and porphyry	pyrrhotite pyrite chalcopyrite sphalerite galena, silver			Descriptive Note Map 37-1962	Open.
124	Riley Brook lat. 47°10' long. 67°09'	Silurian-Devonian rocks	chalcopyrite-pyrite and rarely sphalerite		Discovered in 1968 by Newmont Corp.	Newmont Mining Corp. 1968	Open.
125	Murphy Prospect lat. 47°07' long. 67°07'	Silurian-Devonian volcanics	disseminations of sphalerite galena pyrite	Assays: Cu-0.01% Pb-0.01%	Discovered in 1957 by McIntyre Porcupine Mines Ltd.	Davies, 1972 McIntyre Porcupine Mines Ltd.	Open.
126	Blue Mountain Lake Copper lat. 47°05' long. 67°07'	Silurian volcanics	sphalerite pyrite	surface samples: Cu-0.16%		Newmont Mining Corp., 1968	Open.
127	North Gulquac River lat. 47°01' long. 67°08'	volcanic rocks	chalcopyrite galena, sphalerite pyrrhotite pyrite			Abbott, 1965.	Open.
128	Plater Rock-Renous Highway lat. 46°47' long. 66°29'	quartzite	galena, sphalerite, chalcopyrite			Anderson, 1970	Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
129	Dungarvon River lat. 46°43' long. 66°32'	boulders of quartz and muscovite near granite	chalcopyrite sphalerite			Poole, 1960	Open.
130	Cleveland Prospect lat. 46°40' long. 66°35'	Devonian quartz-monzonite	masses of sphalerite pyrite chalcopyrite	Cu-0.55-1.44% Pb-0.13-0.26% Zn-1.31-6.84% Sn-0.002-0.01% WO_3-0.004%	Discovered by B. Cleveland in 1959.	Poole, 1963 Smith, 1960	Minonex Ltd.
133	Fall Brook lat. 46°35' long. 66°35'	rhodochrosite-rhodonite-quartz	disseminated pyrite galena sphalerite		Discovered in 1959.	Poole, 1960, 1963.	Heath Steel Mines Ltd.
135	McBean Brook lat. 46°32' long. 66°39'	in quartz veins cutting slates, near diorite and trachyte sills.	sphalerite			Poole, 1960	Miramichi Lumber Co.
139	McLean Brook lat. 46°34' long. 66°52'	Devonian volcanic rocks	sphalerite chalcopyrite arsenopyrite		No more information.	Map 6-1963	J. D. Irving.
140	Southwest Miramichi River lat. 46°32' long. 66°52'	Devonian volcanic rocks	sphalerite galena			Map 6-1963 Poole, 1960	As above.
141	Winding Hill lat. 46°28' long. 66°48'	Ordovician rocks	galena minor pyrite chalcopyrite sphalerite	Assays: (1939) Pb-1.24-1.27%	Prior to 1916 W. Hayes and A. Gordon did some work, (mainly trenching).	Alcock, 1930	In 1939 examined by provincial geologist. In 1954, Strategic Metals Corporation staked some ground (no results of work available). Miramichi Lumber Co.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
142	Sisson Brook lat. 46°21' long. 66°02'	Devonian volcanic rocks	sphalerite galena chalcopyrite and iron sulphides			Descriptive notes Map 37-1959	Open.
143	Bigar Ridge lat. 46°33' long. 66°17'	feldspathic rocks	pyrite, galena, sphalerite, chalcopyrite	Assays: Au-0.563 oz/t	Old workings consist of shaft, probably sunk prior 1900.		In 1930 property examined by Dr. J. W. Wright. Property warrants no further work. Open.
145	Wright Brook lat. 46°07' long. 67°32'	Cambro-Ordovician greywacke cut by nearby Devonian igneous rocks	galena sphalerite with minor pyrite in quartz veins.		Pit sunk in 1931.	Wright, Perry, 1931 Anderson, 1955 Anderson, 1968	In 1949 small amount of diamond drilling done. In 1973 could be seen main pit, small pit and trench. Open.
146	Dominion No. 1 lat. 46°08' long. 67°33'	greywacke	sphalerite, pyrite, galena, chalcopyrite	Assays: (Anderson 1940) Pb-5.16-5.58% Zn-7.14-7.53% Fe-8.35% Ag.-0.0005 oz/t Au-1.00-2.00 oz/t		Alcock, 1930 Anderson, 1968	Open.
147	Cobbler Sexton Mine lat. 46°05' long. 67°32'	veins near Devonian granite contact	chalcopyrite, galena, sphalerite, some gold and silver.		First staking in 1907 which resulted in the formation of the Cobbler Sexton Mining Company.	Anderson, 1955	Prior to 1907 the provincial government did some drilling work. In 1909 Cobbler-Sexton Mining Company did more trenching and sunk shallow shaft. In 1959 more drilling supervised by Dr. J. W. Wright. Results not encouraging. Open. Now copper showing.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
148	Interchange Copper Prospect lat. 46°05' long. 67°34'	Cambro-Ordovician quartzite, greywackes, slates, argillites intruded by Devonian granite	quartz veins with pyrite, chalcopyrite, sphalerite and galena.	Assays: Cu-0.32%		MacEachern, 1970-71 Anderson, 1968	Option in 1969 by Imperial Oil Enterprises Ltd. In 1971 geophysical survey was followed by a diamond drilling program. Open.
149	Tomkins lat. 46°02' long. 67°32'	Ordovician quartzite slates	quartz chalcopyrite galena sphalerite			Anderson, 1968	Open.
150	Fraser and Briggs lat. 46°02' long. 67°52'	Cambro-Ordovician meta-sediments intruded by gabbro, diorite and granite	sphalerite galena chalcopyrite			Anderson, 1968 Stairs, 1954	Area prospected, trenched and drilled in 1953 by A. Fraser and M. A. Briggs of Plaster Rock, N.B. In 1954 optioned by J. Stairs. Open.
151	Dead Water Brook lat. 45°54' long. 67°39'	float	galena, sphalerite	Assays: some boulders containcd 50% of galena and 40-50% of sphalerite	Galena rich float found in 1956.	McAllister, 1956 Tupper, 1957	First staking in 1955. Open.
152	Becaguimec lat. 46°11' long. 67°10'	Ordovician rocks	Zn		No more information.	Mineral Occurrences Map, N.B., 1977	Open.
206	Lower Tower Hill lat. 45°18' long. 67°11'	Ordovician, Coonson Formation, metamorphosed feldspathic wackes and tuffs, and floats	pyrite pyrrhotite sphalerite minor chalcopyrite (mineralization from 6-30' in width, but continuation unknown).		Discovered by R. Cox of St. John.	Ruitenberg, 1967,68	Canadian Nickel Co. Ltd. and R. Cox.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
209	Kedron Brook lat. 45°24' long. 66°55' (See Mo, W, Sn in N.B.)	Paleozoic sedimentary rocks cut by quartz veins	pyrite sphalerite chalcopyrite pyrrhotite galena and possible stannite.		Discovered in 1937 by W. Stewart of Rollingdam. In 1939 examined by G.S. MacKenzie.	MacKenzie, 1939 Ruitenberg, 1967 Wright, 1940	Staked in 1964 by Mount Pleasant Mines Ltd. Billiton.
211	Mount Pleasant lat. 45°26' long. 66°48' (See Mo, W, Sn, in N.B.)						
251	Welshpool lat. 44°53' long. 66°58'	Silurian sedimentary and volcanic rocks, cut by quartz-calcite veins	sphalerite galena chalcopyrite pyrrhotite barite			Bailey, 1864 Alcock, 1948	Several tons of ore in 1864 shipped from vertical development.
252	Simpson Prospect lat. 45°04' long. 66°54'	Silurian rhyolitic tuff.	pyrite galena sphalerite		About 1879 the Dick and Simpson Mines were started by Messrs. Mine operated until 1886.	Perry, Alcock, 1960 Ruitenberg, 1968,69.	Woodville Mines Ltd.
253	Magagudavic River (Silver Island) lat. 45°07' long. 66°50'	Silurian slate, phyllite and basic volcanic rocks.	sphalerite galena silver			Bailey, 1864 Ells, 1908 Ruitenberg, 1968.	Old shaft reported by Ruitenberg in 1968. Open.
254	basaltic Island lat. 45°08' long. 66°55'	Silurian and Devonian sedimentary and volcanic rocks.	chalcopyrite sphalerite		Early in the century small pit was put down.	Downie, 1968 Perry, Alcock, 1960 Ruitenberg, 1968 Wolfe, Szabo, 1967	In 1966 stream silt geochemical survey was completed by N.B. Mines Branch. In 1967 property staked by Keevil Mining Group Ltd. and soil sampling, geological mapping and self-potential survey carried out. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
255	Dick Mine lat. 45°05' long. 66°54'	Silurian or earlier, rhyolitic tuff, minor andesite and pelitic sediments basalt, gabbro rocks.	copper, zinc, lead sulphides.		About 1879 the Dick and Simpson Mines were started. Mines operated until 1886.	Perry, Alcock, 1960 Ruitenberg, 1968 Sewall, 1970	In 1969 New Jersey Zinc Exploration Ltd. carried out geochemical, geological and geophysical surveys over their claims. Open.
256	Dideguash Harbour lat. 45°09' long. 66°56'	Silurian or earlier acidic to basic flows and tuffs with minor intrusive rocks.	two anomalies of combined copper, lead, zinc.			Perry, Alcock, 1960 Johnson, 1969	Staked in 1969 by Sullico Mines Ltd. Anomalies of Cu, Pb, Zn (combined) found north of Oven Head. No further work done. Open.
257	Oven Head lat. 45°09' long. 66°56'	Silurian and Lower Devonian volcanic rocks.	pyrite, and minor sphalerite chalcopyrite galena.			Johnson, 1969 Ruitenberg, 1968 Wolfe, W.J., et al, 1967	Geochemical survey was carried out in 1966 by N.B. Mineral Resources Branch and Sullico Mines Ltd. No further work done in the area. Open.
258	Long Island lat. 45°09' long. 66°57'	As above (mainly gabbro)	small grains of galena and sphalerite in calcite veinlets.			Bailey, 1864 Ruitenberg, 1968	Open.
261	Dipper Harbour lat. 45°06' long. 66°24'	Precambrian felsic to mafic flows and tuffs with minor sandstone and siltstone.	galena, sphalerite chalcopyrite	Assays: Cu-0.38-0.97% Pb-0.05-0.71% Ag-0.05-0.88 oz/t Au-0.005-0.02 oz/t	First reported in 1953.	Alcock, 1959 Ruitenberg, 1975	X-ray drilling conducted in 1953. Open.
262	Scott's Dam lat. 45°11' long. 66°22'	Carboniferous or earlier meta-sedimentary and volcanic rocks	galena sphalerite tetrahedrite minor chalcopyrite barite molybdenite			Ruitenberg, 1969	More work recommended (geophysical methods and drilling). J. J. Dolan.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
264	Frenchman Creek lat. 45°10' long. 66°13'	Precambrian Green Head Group limestone	quartz-calcite veins with galena sphalerite tetrahedrite		Discovered in 19th Century on the farm of J. Burchill.	Alcock, 1959 Bailey, 1897 Ruitenberg, 1969	W. G. Walton.
265	Ferguson Lake lat. 45°15' long. 66°11'	Precambrian Green Head Group limestone, quartzite, argillite breccia cut by granitic dioritic and diabasic intrusions.	high grade lead-zinc float		Discovered in 1956 by W.R. Geldart of Musquash.	Hale, 1957 Sutherland, 1957 McAllister, 1958 Alcock, 1959	Staked in 1956 by J.J. Dolan. Shortly the Bay Syndicate was formed and the area was investigated by J.P.B. Sawyer in 1957 (Hale, 1957) and later by McAllister (1958) as a follow-up to airborne E.M. surveys by Aerophysics of Canada Ltd. for Kerr Addison Gold Mines Ltd. (Sutherland, 1957). Worth further prospecting. Individuals.
269	Nerepis lat. 45°24' long. 66°18' See Mo, W, Sn in N.B.						
274	Ferris Brook lat. 45°31' long. 66°21'	Silurian sedimentary and volcanic rocks.	fluorite galena sphalerite			MacKenzie, 1964	No further details are available. Open.
275	Reserve Brook lat. 45°30' long. 66°13'	Silurian quartzite, greywacke and Devonian granite. The sediments are cut by dykes and sills of pregranitic gabbro.	sphalerite galena pyrite arsenopyrite tetrahedrite chalcopyrite	Assays of chip samples: Pb-0.32% Zn-9.43% Ag-0.79 oz/t	Reported first by MacKenzie in 1942.	Johnson, and Salt, 1955 MacKenzie, 1942,1964	In 1942, Provincial Government completed 16 trenches and 4 diamond drill holes. Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
276	Johnson Croft lat. 45°30' long. 66°10'	Silurian sedimentary and volcanic rocks and Devonian granites.	sphalerite galena, chalcopyrite, tetrahedrite	Assays: Cu-0.160% Pb-2.81% Zn-16.04% Cd-0.95% Co-0.964% Mn-0.006% Ag-0.505 oz/t		Hudgins, A.D. 1968 Ruitenberg, 1970	Open.
277	Quispamsis lat. 45°25' long. 65°57'	Silurian and younger diorite minor granite in contact with Precambrian Green Head Group limestone	galena sphalerite pyrite	Assays: (from drill holes) Cu-0.08% Pb-0.41% Zn-trace Ag-0.09% Au-0.005% Best Assays: Cu-0.05% Pb-6.5% Zn-7.19% Ag-1.53 oz/t Au-trace		Lill, 1960 MacKenzie, 1957 Ruitenberg, 1975	In 1955, Sylvanite Gold Mines Ltd. drilled two holes. In 1957 property examined by MacKenzie. In 1960,, Inlet Corporation Ltd. drilled 10 holes. Open.
279	Bald Hill lat. 45°40' long. 66°01'	Ordovician or earlier argillites, slates, quartzite and near to Devonian gabbro, diabase intrusive.	pyrite chalcopyrite sphalerite	Assays: Cu-3.22% Ag-0.69% Au-0.05%	Reported by Bailey in 1898.	Bailey, 1898 Dunphy, 1970 Mannard, 1970 MacKenzie, 1964	In 1960 J.V. English staked first claims. In 1970 staked new claims (to N) by E. S. Dunphy. A total of 140 feet trenches was excavated. In 1967 the Texas Gulf Sulphur Company staked claims to S of English property. More exploration work done as: trenching electromagnetic and geochemistry survey and diamond drilling (3 holes). Open.
280	Belleisle Bay lat. 45°45' long. 65°50'	Silurian sediments	Cu Zn		No information.	Mineral Occurrences Map, N.B., 1977	Open.

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
281	East Scotch Settlement lat. 45°46' long. 65°49'	Silurian slate, argillite with andesite, dacite and minor rhyolite tuff	chalcopyrite pyrite pyrrhotite sphalerite galena in quartz veins and as disseminated	Assays: (from drilling) Cu-0.49-3.93% Zn-3.85%		Flaherty, 1969 Howell, Bagnell, 1976 Ruitenberg, 1974	In 1957 Fundy Bay Copper Mines Ltd. carried out geophysical, geochemical, geological surveys and 11 drill holes were drilled. In 1969, Findathoran Syndicate drilled 9 holes. Open.
284	Jordan Mountain lat. 45°49' long. 65°30'	Silurian and or older sedimentary and volcanic rocks within a basin of Carboniferous strata.	malachite chalcocite Zn Mn		About 1900 copper discovered W of the old manganese workings.	Mineral Occurrences Map, N.B., 1977. Stewart, 1941 Ruitenberg, 1970	Several companies carried out exploration work. In 1954, Anthonian Mining Corporation, in 1960, Mija Mines Ltd., in 1967, 68, Gaspe Park Mining Syndicate and in 1970 Gunnex Ltd. Cdn. Nickel Co. Ltd.
285	Windgap Brook lat. 45°52' long. 65°28'	Pre-carboniferous sedimentary and volcanic rocks.	galena, chalcopyrite pyrite sphalerite	trace of gold and Ag-2.14 oz/t	An adit was started prior to 1900.	Stewart, 1941	In 1966, area prospected by Mr. B. Worden. Staked by Aquitaine Co.
290	Memramcook East lat. 46°01' long. 64°32'	Carboniferous Memramcook Formation barite, quartz, calcite.	barite, fluorite chalcocite covellite, malachite, azurite, galena, sphalerite, chalcopyrite		Barite known prior 1898.	Hamilton, 1968 Harris, 1961	In 1964, prospect examined and later drilled by MacIntyre-Porcupine Mines Ltd. and by M. J. Boylen in 1965. Open.
291	Harvey East lat. 45°45' long. 64°47'	Precambrian rhyolitic lavas and tuffs, chloritic schists and minor sediments.	Cu Zn			Sewell, 1970	Staked in 1969, by New Jersey Zinc. In 1970 geochemical soil sampling. Open.

SUMMARY OF Zn OCCURRENCES — NEW BRUNSWICK

	NAME	HOST ROCK	MINERALS	ANALYSES	HISTORY	REFERENCES	ASSESSMENTS
292	Fenton Pond lat. 45°45' long. 64°52'	Precambrian Coldbrook Group volcanics	bornite galena malachite and small anomalous Zn values			Johnston, 1954 Ruitenberg, 1975	In 1953, staked by N.B. Mining Corp. Ltd., who carried out geochemical and geological surveys and drilled 2 diamond drill holes (569 feet). Open.
293	Teahan Prospect lat. 45°43' long. 64°59'	Precambrian Coldbrook Group volcanic rocks.	pyrite chalcopyrite tennantite sphalerite specularite galena	Sample of chalcocite and tennantite yielded: Cu-11.86% Pb-1.26% Zn-14.27% Ag-3.91 oz/t Au-0.03 oz/t	Discovered in 1880 by W. Goodfellow and in 1887 a shaft was sunk, concentrator erected and several tons of ore mined.	Flaherty, 1932 Kindle, 1962 Ruitenberg, 1975 Wright, 1940	In 1927 examination of the property by N. P. Timmins, in 1928 by Cominco, in 1955 by Anthonian Mining and in 1969 by Mija Mines who drilled 9 holes totalling 3,924 feet and carried out I. P. Survey. Mining license Mija Mines Ltd.
294	Elgin Prospect lat. 45°47' long. 65°06'	Precambrian mafic and minor felsic volcanic flows intruded by Devonian granite and granodiorite.	sphalerite chalcopyrite trace of gold.			Bichan, 1947 Wright, 1948 Ruitenberg, 1975.	Property examined in 1947 by Bichan. At the same time trenching and stripping carried out. Open.
295	Vernon Copper Mine lat. 45°31' long. 65°08'	Precambrian Coldbrook Group volcanic rocks.	calcite quartz bornite, chalcopyrite	Cu-33.8% Zn-0.01-0.07% Ag-1.02-5.06 oz/t Au-0.01-0.07 oz/t	Copper discovered about 1855.	Bailey, 1864 MacKenzie, 1945 Kirwan, 1969 Ruitenberg, 1975	Underground exploration work carried out from 1860-1863 and resumed in 1902 and 1915. In 1969 Centennial Mines completed geochemical survey and drilled 3 holes (2,208 feet). Open.
296	Gu ddy River lat. 45°32' long. 65°13'	Precambrian Coldbrook Group, volcanic rocks intruded by granite.	pyrite sphalerite chalcopyrite	Assays: Cu-3.0% Zn-0-5.27% Ag-tr-0.20% Au-tr-0.01%		Johnston, 1970 Kindle, 1962 Perry, 1964 Ruitenberg, 1975 Wolfe, Szabo, 1968.	From 1960-64 prospected by G. F. Perry followed by Bay Shore Mining Company. In 1968, geochemical survey by Provincial Government and in 1970 by Mija Mines Ltd. Staked by G. Guzzo.

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